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8256 • 8512 • 9512

ISSUE 37 • OCTOBER 1989 • £1.75

Memory upgrade

Jumbo RAM drive for the PCW reviewed inside

- 3 HARD DISCS REVIEWED
- PORTABLE PERIPHERALS
- MINI OFFICE PLUS
- MORE SUPERCALC
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ABC Jan - July 89 10,583

OPENING MENU

5 NEWS PLUS
Everything the PCW owner should know about

10 HARD DISCS
The good, the bad and the ugly

17 PSION ORGANISER
For convenient data upkeep

20 MINI OFFICE PROFESSIONAL PLUS
The verdict you've been waiting for

25 TRIVIAL PURSUITS
Your very own PCW treasure hunt!

26 RAM DISC
How to jog your PCW's memory

29 DG PAY ROLL
New package from Digita International reviewed

33 SPEAKEASY
Andrew Chapman ponders the meaning

34 LOCOSCRIPT FOOTERS
We show you how to toe the line

36 CASE IN POINT
Chart-toppers and show-stoppers

39 CP/M
PIP under scrutiny

42 DOWN TO BUSINESS
A PCW-based wholefood cooperative?

46 LATE EXTRA
New text add-on for Stop Press

49 INDEX
Pull-out article index of issues 24 to 36!

55 HOW TO PROGRAM
Geoffrey Childs continues his series

59 SUPERCALC
Working out the wages

62 CASE IN POINT
Where PCW users shows how it's done.

65 LANGFORD
Government health warnings on your PCW?

67 LISTINGS
Back to BASICS

75 TIPOFFS
Page after page of delectation

83 GOOD SOFTWARE GUIDE
Spreadsheets, graphics and games

89 SPECIAL OFFERS
Bounty-hunters look no further!

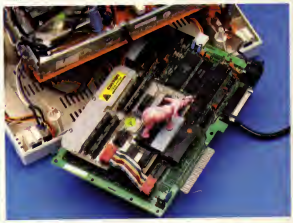
94 POST SCRIPT
Say what you feel

98 COMPETITION
Speed thrills

10 HARD DISCS
Take your pick

17 PSION ORGANISER
The computer in your pocket

20 MINI OFFICE PROFESSIONAL PLUS
At long last - all is revealed!



26 RAM DISC
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FOREWORD

Up, up, upgrade

We seem to have looked at a lot of upgrades this month, especially hardware. Alright, we all know that the PCW comes as a complete word processing system, software, printer and even a spare operating system in case you want to run business software – spreadsheets and the like. So why talk about upgrading? What's the point? Well I'm glad you asked.

To begin with, the PCW strikes all who buy it as an immensely powerful combination of parts. If you've only ever used a typewriter before, or perhaps no more than pen and paper, its myriad abilities can seem quite overwhelming. Who could ever want anything more?

You will. As you begin to understand the inner workings of the PCW, you will push it harder, thinking of more things you would like it to do for you. What tends to happen then is that you come up against one of the limitations of the system. In LocoScript 1 it might be the speed of file-handling with large documents or not being able to use a different printer, so you naturally enough go out and buy LocoScript 2; you upgrade.

For many people LocoScript 2 is the end of the upgrade path, for others it's the beginning. The idea of improving the basic PCW system can get a grip on the mind and you have to have every possible bolt-on goody. The sensible course is to look at the work you actually do and try to find the bottleneck. Your upgrade path is then decided automatically since it will be whatever makes working faster or easier for you.

You may say it's all very well for us, we get to see everything and try it out. That's true, so which upgrades would we recommend? Simple ones: for 8256 owners the best first upgrade is to 512k of memory while for 9512 owners a second disc drive ranks very high in the making life easier stakes. Then we want even more memory, a hard disc, a modem, a coffee machine, a laser printer...

Stef

Now Available

We've just received a production version of the new RAM drive from Isenstein, though too late to get a mention in the article. There are one or two differences between the finished product and the prototypes that we looked at earlier. The most obvious is that the quality of the accompanying documentation is extremely good with photographs to lead you through every stage of the installation.

The final production version of Isenstein's RAM drive.

The other major difference is in the way the board is now fitted to the 9512 machines. Instead of having to de-solder the Z80 and one of the RAM chips, you now attach chip holders to those chips in situ. It looks like a much easier way of doing things. For more information on the new RAM board see page 26.

Training Marathon

Computer Training Centres (UK) Ltd from Bournemouth in Dorset are planning to take the world of microcomputer training by storm. Already they have a network of mobile trainers on the road who are busy covering half of England and Wales with a view to reaching the whole of the UK by April of next year. As if that weren't enough, they hope also to be operating from eight centres in Europe, six in Malaysia and three in the Middle East by the end of next year.

It all sounds a far cry from their origins when they began working from home four years ago following Amstrad's launch of the PCW 8256. Now offering training on PCs as well as PCWs, CTC UK have recently become the official training arm for two of the major retail chains selling computers.

The couple behind the company are Sue and David Rogers. If the name sounds vaguely familiar, that's because Sue's LocoScript training guides have featured in our own Book Look pages. As David comments, "The publishing business we started four years ago now publishes not only Sue's books in conjunction with Prentice Hall International, but also other authors writing on contract to us. By this time next year, we shall have something like 12 books on the shelves of shops all designed around Sue's approach to writing and each one dedicated to a particular piece of software."

If you're interested in finding out more about the company, phone 0202 299676.

NEWS PLUS

by Sharon Bradley

Comedy of Errors

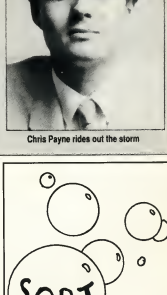
As many of you are painfully aware, the Mini Office Professional Plus saga continues – and looks set to run and run. Judging from the 8000 Plus mailbag, our thoughts on the most recent release of the upgraded version of Mini Office Professional (see page 20) coincide all too clearly with yours.

Database Software's Marketing Manager, Christopher Payne, explains: "This project has been the biggest disaster in the history of the Company. There have been a number of personnel changes to ensure that this never happens again."

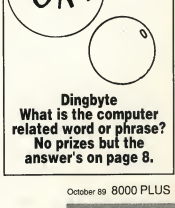
At the time of going to press, he assures us that the vast majority of problems have been resolved; "A new version has gone out for testing with the most enthusiastic and thorough Mini Office users. Spell-checking has been speeded up and you will be able to call up the Spell Checker and thesaurus from the word processor."

The company insists that, under the circumstances, they are being as fair as they possibly can: everyone who has bought Mini Office Professional Plus will receive a new disc as soon as they're ready; anyone who isn't prepared to wait can have a complete refund.

Continues Chris: "Once the program is finally completed, I believe we'll have a tremendous package which offers excellent value for money; there's no other product on the market which offers seven modules and a readable 240-page guide to go with it for under £50."



Chris Payne rides out the storm



Dingbyte
What is the computer related word or phrase? No prizes but the answer's on page 8.

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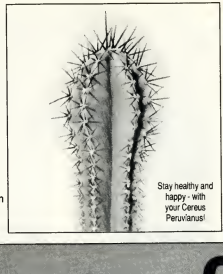
VISA

Prickly subject

According to some health professionals, we would do well to heed the warnings of those who claim that sitting in front of a VDU is not the healthiest pastime we could be indulging in.

Peter Campbell from Cirrus Associates, a Dorset food and environmental consultancy, is just one of them: "I am not saying that VDUs constitute a major hazard to the health of operators, just that they do appear to contribute to the total load of e/m radiation to which we're all subjected; taking precautions when using such appliances really makes sense."

His precautionary measure is a little unusual, but one in which he has complete faith: a Cereus Peruvianus cactus positioned beside the monitor. Swiss and British research has shown it capable of absorbing e/m radiation and Campbell hopes to make the cactus widely available. Phone him on 0747 858165 for further details.



Stay healthy and happy - With your Cereus Peruvianus!

Prestel launch

Prestel, British Telecom's electronic mail service, has recently launched its new mailbox service. Over 95,000 terminals are now attached to Prestel's business and residential messaging facilities, and the latest modifications have been made in response to customer demand.

As from now, there will be no charge for sending a one-frame message to a single recipient, nor for storing messages. There will, however, be a charge of 1p for each message sent using the new message

CLUB NEWS

Elixia of life

Paul Vincent from Brockenhurst in Hampshire is currently busy setting up a software foundation for students – anyone in full-time education, regardless of age or subject of study.

The group has three objectives: to create an open forum through which the various postal members can communicate; to provide advice and guidance on anything relevant to CP/M-based machines, and finally, to publish various of the members' programs in the group's shareware catalogue.

"There's no limit to the kind of programs we're interested in,' says Paul. 'They can be utilities, games, business applications – anything at all!' If you would like a copy of the catalogue, send off a 3" disc together with £1 for postage.

The Elixia Foundation is split roughly into three sections: Paul handles all CP/M and BBC membership details and enquiries, while Matthew Reynolds, who originally masterminded the project, heads the MS/DOS section.

Any full-time student is welcome to join; there are no membership fees for joining and the club magazine is available through subscription (six issues a year). To find out more about the foundation, write to Paul Vincent at 'Fairwinds', Main Road, East Boldre, Brockenhurst, Hampshire, SO42 7WL.

Paul Vincent of the Elixia Software Foundation: thanks to pressure exerted by the group, under 18s will be admitted, for the first time, into the business section of the PCW show this month

Public library

Bob Ellis and Dave Axford from Hereford and Haslemere in Surrey respectively have been very busy compiling their PCW-File catalogue which lists all of the public domain software that makes up their collective library.

Says Dave, "We have also written some interesting and informative articles which we think have helped create an exciting catalogue rather than just a boring (though necessary) list of all the programs in the library"

The catalogue costs just £1: for those of you who haven't tried any public domain software before, send a blank, formatted CF2 disc with your order for the catalogue and they will copy some program samples onto it for free. The money that you send goes towards the upkeep of the library.

Write to either Dave Axford, 18 Sunbrow, Haslemere, Surrey GU27 2QP or Bob Ellis at 'Rowan', 100 St Peter's Close, Moreton-on-Lugg, Hereford HR4 8DW.

Printing hints

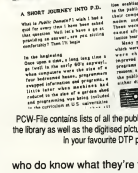
Nick Godwin from Eyemouth in Berwickshire is the man behind the first ever printer user group to come to the attention of 8000 Plus. As founder of the first UK printer ribbon re-inking service, Nick became conscious very early on of the problems sometimes encountered when dealing with these important peripherals.

Although the group is still at a very early stage of development, Nick's aims are clear. 'Write On-Line must try to promote the interests of its members,' he says, 'and to share information and expertise about printer-related products and how to get the best out of them.'

Nick doesn't claim to hold all the answers to the printer-related queries he receives; he hopes to provide an open, postal forum in which the people who do know what they're talking about can help the ones who don't.

Neither is Write On-Line a PCW-specific printer group: the more, it would seem, the merrier. Anyone interested should send a stamped, addressed A4-size envelope to Write On-Line, 4 Hurkur Crescent, Eyemouth, Berwickshire TD14 5AP (08907 50965).

PCW-FILE



PUBLIC DOMAIN SOFTWARE CATALOGUE

A SHORT JOURNEY INTO P.D.

What is Public Domain?, well I bet a shed full of you don't have much idea, I know I didn't. Well let's have a go at changing all that, are you feeling comfortable? Then I'll begin.

In the beginning

A long, long time ago, a long long time a go (well in the early 60's any way) when computers were the size of a small house, programmers ruled, information was propagated little by little, where machines had to be fed in the dark of a perforated tape and programming was being included in the curriculum as O.C. versus Latin.

time anything numbers or you access to the public domain software using their computers a group called a telephone network. These were called bulletin boards, named after the bulletin boards used by estate agents to display

Many programmers, hackers and phreakers (a word I've just invented) started swapping their programs with each other, this was the start of the

PCW-File contains lists of all the public domain programs in the library as well as the digitised pictures which you may use in your favourite DTP program.

Board-walking

If you're having trouble logging on to the Leeds PCW bulletin board that we first mentioned here in the August issue, we're afraid it's our fault; we got the times wrong. Mike Zanker, however, has since put us right. The correct logging-on times are as follows:

Monday to Friday 7pm to 8am
Saturday to Sunday 12 noon to 8am.

Since that last mention of the bulletin board in 8000 Plus, Mike reports that a lot more first-time users are making an appearance: 'We've had about 80 altogether; 20 to 30 of them are regulars while 14 to 15 of them probably make a regular appearance every day.'

If you want to glean some PCW-specific hints and tips, have a go: the phone number is 0532 796143

sending facilities. These include, among other things, a summary list of messages so that you can read what (and when) you want, multi-frame messages up to five frames long, multi-addressing to send the same message to several recipients and up to five mailing lists each holding up to 240 names. There will also be a new, bigger and better directory service.

To find out more about this considerably more sophisticated e-mail service, phone 0442 237237 and ask for the blue Prestel Mailbox User Guide.

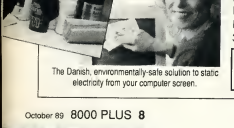
Double or quits

A number of readers have been phoning the office with reports that some computer accessory companies are selling packs of double density 3" discs for several pounds more than equivalent packs of single density ones. Their confusion is understandable: after all, most of us – including the 8000 Plus office – just format single density discs for use in our B drives and on the 9512.

We spoke to Chris Kook of A to Z Computer Services in Twickenham: "The double density discs that we buy from suppliers are more expensive – there's no doubt about that. On the other hand, they have been proved and tested as B drive discs. When you format a single density disc for use in a B drive, you can't guarantee that it will be totally successful; you run the risk of losing data. With our discs you pay more – but you know that they won't let you down." Hmm.

Screen dream

If the static electricity given off by your computer screen is causing you headaches and eyestrain, Danish-originated Alternative Marketing Systems Ltd may well have come up with the solution – a throw-away tissue that is soaked with an anti-static substance and supplied in a small, hermetically-sealed bag.



The Danish, environmentally-safe solution to static electricity from your computer screen.

Just wipe the screen down with the Profect cloth and the resulting film should protect it from all air-borne particles, general smears and fingerprints.

Profect's anti-static properties are effective for up to two weeks; after that, all you have to do is repeat the treatment. One box of 25 screen-cleaners costs £9.80 and should keep your screen static-free for a year. For further information, call 0424 52314.

Corruption charges

Mark Wallis and Yvonne Vollum from Nottingham are currently setting up their own 3" disc data retrieval service. All you have to do is send off your corrupted discs with a stamped, addressed jiffy bag; they promise to do everything in their power to return them in working order 24 hours later. "A complete data retrieval," says Mark, "will cost somewhere in the region of £30; inserting protection routines onto a disc about £10. If data cannot be rescued, no charge will be made." Contact Nottingham Data Retrieval Services at 34, St Helen's Crescent, Burton Joyce, Nottingham NG14 5DW on 0602 313624 to find out more.

Answer to dingbyte: Bubble Sort

Matching accessories

Accodata, a company renowned for its range of hardware add-ons, has recently introduced a range of three new copyholders. All three models are manufactured in Switzerland and produced in computer grey so they should match up with your existing hardware. Their most obvious feature is their concave bow-shape construction which, say Accodata, will cut down on eyestrain by providing a constant focus distance between your eye and the copy.

The new ergonomically-designed copyholder from Accodata.

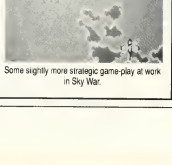
The models comprise a manual A4 swivel arm which will retail at £44.95 and a landscape A3-size swivel arm for £51.50. In both cases, the arm unclips to form an instant desktop copyholder. The range is completed by an A4 desktop copyholder selling at just £19.95. All prices are exclusive of VAT. For further details, phone 0732 885555 or 01 7590005.

PCW Challenge

Games software house, Artronic, will be launching a four game compilation from the 7th of September. Priced at £14.99, the compilation includes the popular ACE, Formula 1, Sky War and a tame version of Strip Poker. The compilation is only available for the 8000 series machines.

Phone Liz Sandey on 0423 525325 for further information.

Grand Prix prowess? Don your crash-hat for some serious Formula 1 fun.



Some slightly more strategic game-play at work in Sky War.

SNIPPETS

And why not?

Readers intrigued by mention of film-shows in last month's 'Aiding and Abetting' case in point (page 36) might like to get details of how to form and run your own film society from The British Federation of Film Societies, BFI Film Society Unit, 21 Stephen Street, London W1P 1PL (01 255 1444).

The sincerest form?

The specialist commercial unit of City law firm, Titmuss Sainer and Webb, has produced a brief guide to the changes in copyright protection for computer software in the Copyright Designs and Patents Act of 1988. The new provisions are aimed at removing some of the difficulties and anomalies of applying copyright protection to new and developing software technology. Phone Linda Phelan on 01 583 5353 for further details.

Late order

Following our review in the August issue of Ansible Information's AnsibleIndex Plus program, Managing Director Dave Langford wrote in to inform us that since that review went to press, a fully-comprehensive index has been added to the latest, revised version of the manual. For more information about this text-indexing program, call 0672 62576.

Quite a difference!

In our Pascal article on page 52 of the September issue, we quoted the price of ProPascal as £240. Unfortunately, this is Grey Matter's price of Prospero's high end CP/M compiler. The correct price for their PCW Pascal Compiler is only £49.95 plus VAT and can only be bought direct from Prospero. Phone 01 741 8531 for further details. Sorry.

Pooling resources

Intraset Ltd announce the release of their new football pools predictor program, Poolsmaster, available for the PCW at £18.95 on mail-order.

Ken Chadwick of Intraset tells us that the program has already proved an out and out winner for a number of people, including a Mr Hammond of Chigwell, Essex, who has already won over £10,000 using it. Call 02572 76800.

"The Rolls Royce of PCW desk-top publishing"

Amstrad PCW magazine, July '89.

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THE HARD ONES

Having a hard disc is never having to say you've lost your floppy. Steve Patient looks at the latest in high technology storage

Anyone who has ever owned a tape-based computer will remember the sense of freedom that floppy discs gave them, the very idea of returning to slow, awkward, taped based storage is anathema. Discs simply make life so much easier that giving them up is unthinkable; all of which is in the nature of a warning since once you've used a hard disc you will inevitably begin to feel the same way about all those floppies that you currently treasure so much.

Once a hard disc has been fitted, you tend to forget that it even exists; all that remains are your programs and files, at your fingertips, instantly and always. Alright, that's the warning finished, now on with the review.

For quite some time now the only hard disc on the market for the PCW owner has been the WEB system from Timatic, but recent advances in hard disc technology and the way they are now being marketed have brought a new kind of hard disc to the fore. What's happened is that the computer world has begun to standardise on a particular interface between computers and peripherals – mainly data storage devices.

The name of this system is Small Computer Systems Interface, or SCSI (pronounced 'scuzzy') for short. Hard discs fitted with this interface can be attached with relatively little difficulty to a wide variety of computers; in fact the hard discs themselves are no longer specific to a particular computer but can be made to work with anything from a PC, a PCW, an Amiga or Atari to a Mac.

The fact that these hard discs are no longer tied to a particular machine makes them a much better buy than anything previously available, and it also makes it economic for the manufacturers and retailers to adapt the same hard

Vortex Hard Disc – Ideal Hardware

This comes very professionally presented in two versions, the 20MB and a 40MB drives. The hard disc tested was a 3.5 inch Miniscribe device in a box that Ideal Hardware calls a Base Unit; this same unit is supplied regardless of the kind of computer you own and always costs the same. The other part of the system is a 'personality module', which as you might guess from the name sits between your computer and the hard disc drive and makes your particular kind of computer work with the disc drive. Change your computer and you only need to buy a different personality module and not a whole new hard disc. The lead that connects these two is included as is a disc or disc set containing the utilities you need to run the hard disc (including the hard disc drivers).

The new System 2000 still has one or two software teething problems to be ironed out; which is being done.

What isn't supplied is a mains lead with the European connector (as found on electric kettles) to connect the Base Unit to the mains, though these can be bought at any electrical store. To get the system working you have to connect it all together. On the 8000 machines the edge connector goes the opposite way from what you'd expect and has no bridge to stop you inserting it the wrong way, which we did. However, if it doesn't work just change it around and everything should be alright.

According to the manual the Base Unit has to be turned on 15 seconds before the PCW and the PCW turned off before the Base Unit, which is irritating – leave a note stuck to the front of the PCW to remind you. Just how much damage would be done if you did forget is a moot point; it seems unlikely that the system is so fragile that a single moment of forgetfulness would lose you several hundred pounds worth of hardware.

The hard disc we got has to be initialised (formatted) and partitioned (made into several logical drives C,D,E and F) before it can be used. In fact this procedure is not for the faint hearted especially as the software supplied and the manual don't appear to be in complete agreement. This was probably because we were testing one of the first five hard discs from Vortex (the German manufacturer) to arrive in the country.

This proved to be the most frustating of the the three hard discs we tested. There is a program on the supplied master disc that automatically installs the hard disc when first it's used, but the manual is far from lucid concerning what is going on. Once the installation procedure is complete another program needs to be run to set up the partitions, but again, this is far from clear.

The menu option that claims to prepare start of day discs for LocoScript and CP/M failed to work, simply causing the PCW to lock up, and oddly enough, trying to run Diskit with the hard disc connected also locked up the system - though we were unable to repeat the effect.

Some of the problems we encountered were no doubt just teething troubles - inevitable with a new product. Ideal hardware were unfailingly helpful and the system worked well enough in the end, but perhaps this disc should be left for your consultant to set up.

drives for a variety of machines – with sales no longer limited to one make of computer everyone benefits, especially PCW owners who now have a wider choice than ever before.

56 into one will go

Hard discs have been growing in size over the past few years while the prices have remained near constant. You can now buy a 40 megabyte hard disc for the same amount of money you would once have paid for a five megabyte drive. But it isn't only the size of the drives that have improved.

The first hard disc drives were barely faster than floppy discs, but that's changed dramatically over recent years. There are hard disc drives available now that appear little slower in use than RAM drives. A hard disc drive can easily be twice as fast as a floppy drive in terms of access time (in some cases a great deal more) and since you don't lose the time required to find and insert the relevant floppy disc, or the time required for CP/M to check the directory, the real improvement in work speed is much greater than would at first appear.

Where hard discs really come into their own is with large data files. A 20MB (megabyte) hard drive can directly replace 28 720k double density discs and a massive 56 360k (180k double sided) floppy discs. CP/M can randomly access a single file of upto 32MB which would represent a very large data file indeed. In fact such a file could contain the complete text of more than 50 paperback novels, or around 8000 A4 sheets of closely typed text. Even without compressing them in any way you could keep more than 160,000 names and addresses in such a file. Alright, that's enough big numbers.

Security course

Of course there are one or two disadvantages to using a hard disc for all your work, the most notable of which is loss of security, in several senses of the word. Unlike a floppy disc you can't just pick up a hard disc, put it in your pocket and take it home with you, the data remains on your machine for anyone with the access and the inclination to take a look at it. There is also the

Future shock

The three hard discs we've looked at aren't the end of the story; Isenstein are planning to adapt a standard cheap PC disc drive for the PCW in the near future.

At the moment this is only in the prototype stage, according to Isenstein, but as soon as they have a review version working we'll be taking a look at it for you.

Timatic systems' WEB

The longest serving of all the hard discs for the PCW. The Timatic WEB may be a little old but it's very reliable.

This is a hard disc system dedicated to the PCW. It comes in a steel box big enough for the PCW to sit on top of and looks rather smart. As with all the hard discs supplied it comes with a master disc that you must immediately make a working copy of. Unlike the others it also comes with a mains lead, a through connector for the expansion bus on the back of the WEB unit and a PCW specific manual. This means that you can still have your RS232/Centronics interface attached for printers, modems or whatever.

The disc comes pre-formatted as a single 20MB drive but the format program supplied can change this to two 10MB drives, one 10MB and two 5MB drives or four 5MB drives. This is particularly useful if you intend to use both LocoScript and CP/M on your hard disc as it allows CP/M to work with all 16 user groups without the risk of having LocoScript treating files in groups 8 to 15 as limbo files.

The actual hard disc inside the WEB unit is the now rather venerable but very reliable Seagate ST225 as used in millions of PCs. What makes it more expensive for the PCW is the need for a box, special software and the Timatic SASI interface (which is an earlier version of the SCSI interface). As with the other SCSI drives these can be chained together up to eight deep – though it's hard to think of a use for this feature on the PCW.

The hard disc is normally supplied with a version of LocoScript 1 for a hard disc if you need it, the situation with LocoScript 2 is a bit different. Versions of LocoScript 2 earlier than version 2.20 have to be upgraded, which Timatic will do on receipt of your master discs. Versions later than 2.20 need only the standard hard disc driver that comes with the system disc, and your LocoScript 2 will work quite happily once this is copied to your working discs.

Setting up the WEB drive is extremely simple. You can't get the ribbon cable the wrong way around as the end that goes to the top of the expansion bus is clearly marked. As usual the only thing you have to be careful of is ensuring that you turn on the hard drive before turning on the PCW.

You boot up the system from the PCW A drive using either a copy of the hard disc version of CP/M, the hard drive version of LocoScript 1 or LocoScript 2 with the hard disc drivers and then simply install the files you want on the hard disc. As far as the PCW is concerned you've simply gained some new drives. These would normally be drive C and then D, E and F if you decide to use that many partitions. You can't boot up from the hard disc.

The manual details the utilities supplied by Timatic. The ARCHIVE program, lets you back up your hard disc easily, the PARK program, which puts the read/write heads somewhere safe if you plan to move the unit and the FORMAT program which allows you to reformat the hard disc as well as setting up various logical drives for use with both CP/M and LocoScript.

Timatic are continuing to support and improve their software and existing users can buy the new FORMAT program. The manual provides extensive instructions and suggestions for working with the hard disc, using your own software with it and getting the most from a powerful addition to your computer.

Price rise

Hard disc prices vary considerably as you can see from the article, and you may be tempted to go for the one with the lowest cost. This can prove a false economy. It's more important to make sure you get one that suits your requirements.

When you're spending as much as several hundred pounds on a piece of equipment it's probably worth paying a professional consultant another £10 or £20 to make sure that you get the right one.

This is especially important for a business where the hard disc may become an important piece of company equipment.

Twice the price

Hard discs can actually cost more than the PCW itself, which tends to come as a bit of shock to PCW owners who are used to prices being very reasonable.

Think yourself lucky though, users of some computers have to pay more for their software alone than a PCW owner pays for the complete kit. Not only that but they'll probably still have to pay the same as you for a hard disc as well (or even more on a Mac).

Of course, with the System 2000 and the Diamond the disc is an investment for any business currently using a PCW since any other computer they get in the future can make use of the same disc.

Business sense

The down side of hard discs is their comparative fragility. It isn't that they are actually so easy to damage as that the damage tends to be so complete.

Since a hard disc is in operation all the time it's switched on any sharp knock can cause the flying heads to touch the surface of the disc. Even though this may only result in the tiniest of scratches the data there will be lost. If the data happens to be in the directory tracks this can result in having to completely reformat the disc, with all the consequent trouble involved in getting your backed up files into operation again.

It's all this trouble that hard disc users are anxious to avoid and which makes them so protective of their hard discs.

security aspects of backing up your data to consider, although in some ways this is less of a chore than with floppies. Hard discs are actually a lot more reliable than a floppy disc. The way they work means that there is no actual wear on the surface of the disc as there is with a floppy (where the read/write head is always in contact with the disc surface while it's spinning. Manufacturers of hard discs usually quote a minimum figure of 20,000 hours MTBF (Mean Time Between Failures) and it can be a lot higher.

This doesn't mean that your hard disc will be no good any more after 20,000 hours, just that statistically speaking it's likely to throw up some kind of a data error after that many hours and may need re-formatting. In fact a hard disc will usually go on for a great many years providing nobody knocks it to the floor while it's in use.

The problem is that when it does eventually refuse to read a file it will be the most important file you have and at the worst possible time. For this reason regular backups of data files must be taken, at least once a week if the file is being regularly updated or after any major update if it only happens irregularly.

It has to be said that setting up a PCW with a hard disc requires an ability to not just read technical manuals but to understand and obey them. This is the usual computer situation where you're expected to display the greatest degree of knowledge when you're least familiar with the subject at hand. Setting up a hard disc to suit the way you work involves a number of separate steps none of which appear to make any sense if you haven't been involved in computer hardware before.

If you aren't a computer enthusiast then don't even open the box yourself, sleep easy and pay a professional to set it all up in accordance with the way you want to use it (and let the consultant figure that out as well) and then get him or her to show you how to use it. ■

Cirtech Diamond

This is the most innovative of the three hard discs which arrived for review. Once again the hardware is a near featureless box, a mains lead, a SCSI shielded lead (rather than a ribbon cable), a disc, a manual, an interface and a SCSI terminator (of which more later).

Cirtech will sell you a 32MB or a 48MB drive with an astonishingly fast access time, and equally astonishing features. For example, everyone knows that you can't make a PCW boot up from a hard disc – wrong – Cirtech have solved that problem in fine style.

Setting up this disc drive seemed easier than the others, but we had practised by the time we got to it, so that may be subjective. After connecting the bits together, including fitting the SCSI terminator plug to the socket in the hard drive (it tells the SCSI system that this is the last device in the line) we turned on the hard disc and then the PCW as usual and watched the screen come up with a message from the hard disc interface – pretty clever already.

They said it couldn't be done. The Diamond allows you to start your PCW from the hard disc automatically.

The next step was to boot from a standard CP/M disc as supplied with the 8256, then run the setup program called DIAMOND supplied by Cirtech; this gives a number of options, one of which is to copy the system onto the hard disc from a floppy. At the moment this is only CP/M since at the time of writing the company are still negotiating with Locomotive. Now for the clever bit.

Either switching off and then switching on or resetting the PCW results in the Diamond startup screen flashing up followed by the A prompt (yes, the hard disc is now drive A and B). At last, you can put those floppies away and forget them. This seems a bit like magic the first time you see it.

But the trick doesn't end there. Cirtech have arranged that up to seven PCWs can be attached to the disc drive via 'T' cable connectors attached to their own interfaces on the individual computer. Each of these machines will have been assigned its own A and B drives on the same hard disc during the system configuration phase and afterward each can boot up from it at any time.

For one final, and very impressive, trick you can have both LocoScript (standard 1 or 2 versions) and CP/M on the same hard disc in the same logical drive and choose from which you want to boot up by default. To boot from the other one you simply hold down the [ALT] key when you start the PCW. This booting up procedure takes just one or two seconds.

Once the hard disc is working your floppy drives become drives C and D (if you have a second one), which can take a little getting used to. However, if for any reason you want to start from a floppy disc simply turn on the PCW without first turning on the hard disc and after the PCW beeps twice (which it will do if the interface can't find the hard disc) put in your start of day disc and press the space bar. Everything will now proceed as it would have done without a hard disc.

The system comes with the usual utilities for backing up the hard disc, setting it up, formatting and so on but it has one extra worth noting; a file manager to protect the fainthearted from the dreaded A prompt. It allows you to look at different user areas, move and delete files and even to run a COM or SUB file all with one or two key presses. Great for the reluctant typist.

In use the Diamond hard disc is fast and nearly silent. There is very little noise from either the disc or the cooling fan and with the auto-boot feature it's very easy to forget all about it. Your PCW will feel completely different. If you thought it was friendly before it will seem positively Jeeves-like with a Diamond hard disc attached.

Name	Supplier	Size	Price + vat	Auto boot	Auto Head Park	Partition	Interface & harddisc type	Environment	1MB file transfer	Multi-user	Expansion Port
WEB	Timatic 0329 236727	20mb	£499	No	No	20 -10 -10, 10 - 5 - 5, 5 - 5 - 5 - 5	SAS1 Seagate ST225	CP/M Locoscript	3 minute 15 seconds	No	Yes
Diamond	Cirtech 0895 57790	32mb 48mb	£465 £545	Yes	Yes	Up to 7 A & B drives	SCSI various hard discs	CP/M	1 minute 20 seconds	Yes, max 7 users	No
System 2000	Ideal Hardware 01 390 1211	40mb	£499	No	No	1 to 4 of any size	SCSI 845OXT Miniscribe	CP/M LocoScript	2 minutes 45 seconds	No	No

This chart is not intended to be completely comprehensive but it does detail the main differences between the drives that we tested. One of the most important is speed. As a simple test of comparative speed we copied a 1MB file from one user group to another on the hard disc and timed it. By the time you read this the Diamond should have LocoScript.

INSIDE A HARD DISC

As with so many things to do with computers, IBM invented the disc drive. They decided it would be useful as a place to keep data temporarily while waiting to put it somewhere safe – onto tape.

CP/M was the first operating system available to enthusiasts that would run on a variety of computers, to make use of the new storage medium. This availability ensured its success. Hard discs followed on from those early floppies and use the same basic techniques as a floppy disc, but, they do everything faster, on a smaller scale and closer together.

Inside a hard disc are a number of aluminium plates – called platters – each one polished to a glass-like smoothness and guaranteed flat to within fractions of a micron. Onto both sides of this aluminium plate is put a fine magnetic layer which actually holds the data. These plates are mounted on a central spindle within a rigid case. On the same base the read/write heads are mounted, thus ensuring that the two parts will maintain the same relationship to each other as accurately as possible.

The platters are spun at around 3,000 rpm (revolutions per minute) when the disc drive is operating, and unlike floppy discs they spin all the time that the computer is on. Clearly, anything touching the surface while it was moving at this speed would cause a lot of damage. To avoid that possibility the read write heads are shaped to fly above the surface – though not very far. The gap between the head and the surface is so small that even the particles in cigarette smoke are too large to go through it. A human hair is more than five times too big to fit. For this reason hard discs should only be opened by trained technicians in purpose-built clean rooms.

To store information on the disc magnetic tracks have to be laid down and then marked up into several separate sectors. Since the read/write head flies so close to the surface and is so small, these magnetic tracks can be very fine and extremely close together. In fact if the platter or the head mountings are moved even slightly the two would never be able to match up again; this is a very good reason for not knocking hard discs about.

Speaking softly

Because of the precision nature of the hard disc more than 600 tracks can be written on each side of the platter, each track usually being divided into 17 1k sectors (although with SCSI drives there can be even more tracks and sectors than this). Even at this density a single platter gives 20MB of storage space, two platters give 40MB and so on.

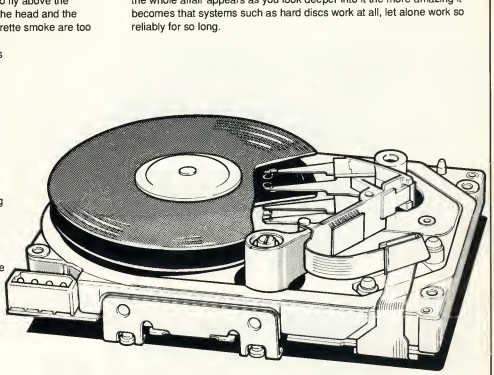
To make them appear even faster in operation each platter can have more than one read/write head to each side, each head accessing a different area of the disc.

The 600 odd tracks on each side of the platter are grouped together vertically into cylinders, and the sectors numbered as if each cylinder were a single gigantic track. Looking after all these heads, cylinders, tracks and sectors is a big job, and one that the computer itself can't really spare the time for. So attached to each actual disc drive is a disc drive controller board. This hides the nasty fiddly bits from the computer which then only has to worry about sending and receiving data – well, not quite.

When you ask for a file or program the PCW still has to go to its directory structure, find out where it thinks the file is stored, and ask for information from this track and that sector, except that as with the RAM drive (M) these demands are intercepted and translated into demands that match the physical reality of the situation.

CP/M hails from a simpler time and still lives in a world where all discs are single sided and have sectors of 128 bytes as originally specified by IBM. This doesn't match the actual built-in floppy discs, is nothing like the situation in the RAM drive and is total fantasy compared with what's going on inside the SCSI hard disc drives.

The hard disc controller is actually responsible for protecting CP/M and its BDOS (Basic Disc Operating System) from the awful truth concerning the way its files are stored. In fact, considering how complex the whole affair appears as you look deeper into it the more amazing it becomes that systems such as hard discs work at all, let alone work so reliably for so long.



A hard disc is so called because of the rigid aluminium discs it uses, each of which spins at 3000 revolutions per minute. These platters are divided into tracks and sectors – over 600 tracks per side and 17 sectors.

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Arabic, Urdu and Farsi. Richard Raby writes – backwards

EURO-ARABIC LOCOSCRIPT

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Locomotive have come up with the goods: a PCW first – and a very good first it is too, when you pause to consider the problems Arabic-based scripts present to the software designer. Apart from the need to mix scripts which run in opposite directions, there is the question of letter forms. Each letter can have up to four forms : initial, medial, final or isolated depending on where it occurs within a word. Arabic text typewriters use a simplified system of two letter forms involving extensive use of the shift key. In this program Locomotive have overcome the problem by the use of 'context analysis', whereby the program itself produces the correct character shape. As the word is being typed the shape alters on the screen; and if corrections are made the shape will again change accordingly, allowing the user to concentrate on entering the correct letters without worrying about their form.

Included in this package are the standard LocoScript 2 manual, a 54 page Euro-Arabic user guide, two installation discs (one for Arabic and Farsi, one for Urdu) and a 'dongle'. This is a little device, about the size of a matchbox, which plugs into the monitor keyboard socket before connecting the keyboard lead. It acts as a software protection system – you can still make a copy of the start-of-day disc but without the dongle connected it is useless. Leaving the dongle in has no effect on any other programs. The new user guide, clearly set out with separate sections for Arabic and Urdu, follows Locomotive's practice of teaching by example with texts provided on disc.

To install Locoscript Euro-Arabic, remember to choose which version you want to use, Arabic or Urdu, and follow the on-screen instructions to make a start-of-day disc. Current LocoScript users will be completely at home with this new version, which is in effect LocoScript 2 with a number of important changes.

Coming or going?

The normal keyboard shift with the standard Roman alphabet is unchanged, as is the Symbol Supershift. Apart from a couple of minor alterations the [ALT] and [EXTRA] keyboards are also the same as before. The main difference is that the Greek and Cyrillic alphabets have been replaced by two alternative keyboard layouts. These give a choice of either typewriter layouts or 'phonetic' layouts, where the Arabic or Urdu letters approximate to the standard Qwerty keys.

Apart from the alphabets themselves the obvious difference between European languages and the Middle Eastern ones on this program is that they are written in opposite directions. All Arabic-based scripts run from right to left (although the numerals are written from left to right). A new choice in the layout options menu allows the user to opt for either right to left, or left to right text.

Fine – but what happens if you want to mix languages which run in opposite directions, Urdu in an English text, for example, or French in an Arabic text? This is handled by LocoScript's 'Shuffle Insert' facility which allows text in the alternate direction to be inserted without the need to type everything in backwards.

You have to be careful with anything which runs over onto the next line, or you can end up with text out of sequence. Newcomers are going to find it confusing to start with.

Market forces

Though of limited interest to most English-speaking LocoScript users, this release is nonetheless aimed at a considerable market. Arabic is one of the world's major languages and the mother tongue of 120 million people, mostly in North Africa and the Middle East. As the language of the Quran, the holy book of Islam, it is read by millions of Moslems all over the world. Urdu is the national language of Pakistan, with a population of 85 million, and is also used by some 30 million people in India. It uses an extended version of the Arabic alphabet with seven extra letters. Two national newspapers in Urdu are published daily in Britain.

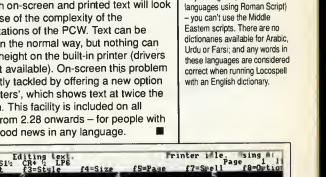
Farsi, commonly known as Persian, has been written in Arabic script since the 7th century AD and is spoken by some 20 million people in Iran and a further 5 million in Afghanistan.

Middle Eastern languages have their own sets of numerals which differ from those used for European languages (which, just to confuse, are known as Arabic numerals). Some people, however, prefer to use the Arabic numerals, so again LocoScript offers the choice in the layout options menu. Whichever is chosen as the default can then be keyed in from the main keyboard with the alternative set available by pressing [EXTRA].

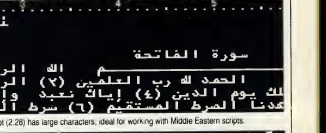
For some users both on-screen and printed text will look too small. This is because of the complexity of the characters, and the limitations of the PCW. Text can be printed in double width in the normal way, but nothing can be done to increase its height on the built-in printer (drivers for other printers are not available). On-screen this problem has been has been neatly tackled by offering a new option called 'large edit characters', which shows text at twice the normal height and width. This facility is included on all versions of LocoScript from 2.28 onwards – for people with sight difficulties this is good news in any language. ■

Yes, you can

Euro-Arabic will work with all the Loco add-ons, Locomail, Locoffle and Locospell – but only in English (or other languages using Roman Script) – you can't use the Middle Eastern scripts. There are no dictionaries available for Arabic, Urdu or Farsi; and any words in these languages are considered correct when running Locospell with an English dictionary.



The latest LocoScript (2.28) has large characters, ideal for working with Middle Eastern scripts.



Euro Arabic LocoScript enables you to write both ways on the screen and mix languages in documents.

PLUSES	MINUSES
▲ Has all of LocoScript 2's facilities	▼ Print quality restricted by 16 dot pattern
▲ Can mix text	▼ Requires an understanding of English
▲ Context analysis for letter forms	

RANGE OF FEATURES	3/5	EASE OF USE	4/5
PERFORMANCE	4/5	DOCUMENTATION	4/5
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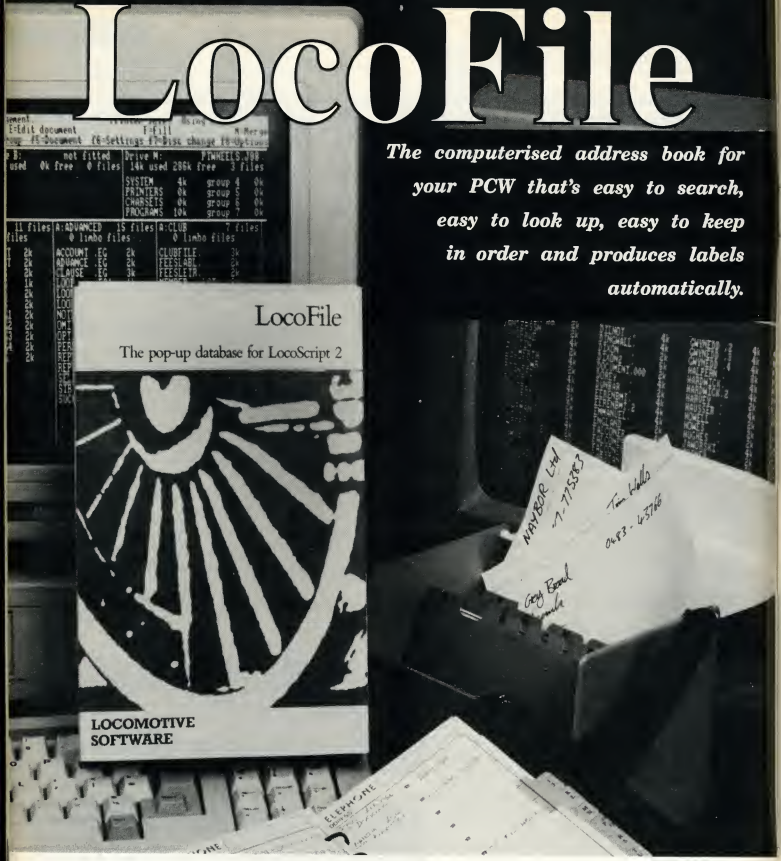

WHAT THE PRESS SAY:

... At any point while working all your records are available instantly and the information from within them can be included in your LocoScript documents ...

Kay Ewbank
Amstrad PCW Magazine, April 1989

... LocoFile's principal asset, apart from being ridiculously easy to use, is the close collaboration with LocoScript ...

Christina Erskine
Computer Shopper, March 1989

...It's difficult to think of any LocoScripters who wouldn't find LocoFile useful...

Rob Ainsley
8000 Plus, November 1988

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PSION FOR YOU

Rod Lawton gets thoroughly organised as he hooks up Psion's diminutive Organiser to his PCW

A Filofax is one of those things you swear you'll never find a use for - but once you've got one, you can't imagine being without it. Well the Psion Organiser does everything a self-respecting Filofax will - only much, much better.

What makes a pocket computer like the Psion so useful to a PCW user? Well it isn't the word processing functions since the Psion has very few (though there is a word processor available on a ROM that plugs into the peripheral port). It makes more sense to look at the Psion as an interactive data gathering device. A kind of notebook with a life of its own.

A club secretary, for example, could keep a database of members on the Psion for immediate updating, for proof of subs not yet paid and so on, and can use it as a remote device for the permanent database held on a PCW – which won't fit in even a poacher's pockets. The database on the PCW would simply be updated at regular intervals to ensure that mailing lists and such like were correctly handled. You would only ever input information once.

The same kind of thing could be done for any information gathering exercise where they won't let you take your PCW or it's a shade inconvenient, like archeological digs, bird watching in the Brecon Beacons, or Heathrow airport.

The Psion gives you access to all the text and number crunching power of a much larger computer while you're on the move, information that can be easily transferred to and from the PCW for permanent storage or large scale alteration.

Indeed, this aspect of the Psion's powers has been heavily exploited by various companies. Psion Organisers are not simply the yuppie Filofax-substitute the uninitiated might assume. True, they're designed primarily as a computerised personal time/data management system to help you plan that busy and hectic life you lead, but they're also being snapped up in their thousands by corporate buyers who are seizing on their enormous potential as remote handsets and terminals for centralised computer systems.

Little gem

Versions of the Organiser are used by the jewellery departments of Debenhams stores in conjunction with Hewlett-Packard bar code readers to record details of sales and returns. Information is stored on datapacks which can later be removed from the Organisers and uploaded to an IBM PS/2 machine to be merged into Debenhams centralised stock control system. And CIRO Pearls Ltd reckon that using an inventory control system based on Psion's XP model has helped reduce the time taken for the annual stocktake by two thirds.

What the Psion Organiser loses in the ease of use stakes it makes up for with the freedom it allows you when collating data: link up with your PCW on the move.

British Telecom is another customer experimenting with Psion's miniature marvel. Engineers have traditionally had to manually fill in reports on daily maintenance work, but in the Southern London area, engineers are recording details such as travelling time, equipment repaired, steps taken and repair time on Psion Organisers, and bosses already report significant time savings and the greater accuracy that comes from engineers recording the information on the spot rather than trying to remember it later on.

Financial concern Lloyd Bowmaker is experimenting with Psion Organisers - replacing the traditional 'rate book', pages full of complex tables needed to offer clients accurate quotations, while abroad, Danish florists, Swedish pilots and foreign aid workers in Asia are finding the machine and its derivatives a godsend.

Central to many of these specialist applications is the Psion's OPL programming language. Powerful and fast, OPL is essentially a highly developed derivative of BASIC, and includes comprehensive commands and functions related to the manipulation of records in data files.

Facts and figures

The Psion Organiser is basically a machine for storing a substantial data-base of addresses, phone numbers or any other information - all of which can be accessed virtually instantaneously. It will also keep a diary of all your appointments, even sounding an alarm to keep you on schedule if you

Not on mine you don't

Writing programs in OPL on the Psion is harder than it need be due to the limited amount of text that can be seen at any one time. However, a developer kit is available for around £50 which lets you develop and debug programs on an IBM PC-compatible before transferring them back to your Organiser. This strikes us as a distinctly computerist attitude. The problem for anyone wanting to develop these programs on a PCW is that they need to be changed to the internal tokenised OPL form to work.

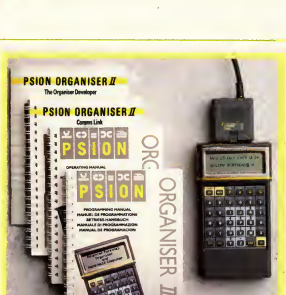
Psions of success

The Psion Organiser has proved a runaway success for its manufacturers. Psion is a British micro electronics engineering marketing company founded in 1980 by Dr David Potter, Chairman and Managing Director. It was in 1985, however, with the release of the original Organiser I that the company really placed itself on the map. The Organiser I generated over four million pounds profit in its first year, and went on to sell a total of 30,000 units. In 1986 the considerably more sophisticated Organiser II ranger was launched, and then in 1989 the CM and XP models were joined by the yet more sophisticated LZ and LZ64 machines. Total sales of Organiser IIs now exceed 300,000 worldwide. The company continues to expand, having recently taken over Dacom Systems Ltd, which specialises in comms products.

Here it comms again

Yes, as with every other Ilie transfer between computers you have to set both machines to make it work. The Psion has a Setup menu for its Comms Link. For the record, the various parameters should read as follows:

BAUD	1200
PARITY	NONE
BITS	8
STOP	1
HAND	RTS
PROTOCOL	NONE
ECHO	HOST
WIDTH	80
REOL	<CR><LF>
REOF	<SUB>
RTRN	NONE
TEOL	<CR><LF>
TEOF	<SUB>
TTRN	NONE



You'll be pleased to hear that the Psion Organiser is a very easy system to get to grips with. The documentation that comes with it leaves no stone unturned!

want it to. There is a calculator mode which offers ten permanent memories, over 50 mathematical and scientific functions and which is programmable too, and... (pauses for breath) ...the machines feature the OPL progamming language for custom-designing your own applications.

The two lower-end machines in the four-model range - the CM (about £80) and the XP (about £110) feature a two-line display, while the new LZ (about £150) and LZ64 (about £190) have a four-line display. In addition, the LZ and LZ64 offer a daily or weekly at-a-glance diary which lets you define start and end-points for appointments (including an optional alarm). 'Notepads' include calculating and entry-numbering facilities and optional password protection, automatic cross-referencing and alphabetical sorting of multiple files. As well as 'wildcard' search clues, also supplied are international dialling codes and local times for 400 cities in 150 countries.

Total Organiser sales have now gone past 300,000 worldwide, and many application packages now exist, both from Psion and from independent publishers.

As if all that little lot wasn't enough, Psion also markets some fascinating peripherals. The Psion Printer (about £195) is a portable dot-matrix thermal unit with a built-in rechargeable battery pack and optional integral magnetic card reader, while for retailers there is a special barcode reader. These add-ons plug into a port located on the end of the Organiser directly above the keyboard.

Meanwhile, beneath two sliding covers in the back of the casing are two slots for plug-in cartridges. These can be used for 32k Rampaks, Datapaks (which can be erased for re-use using a special Formatter: sizes from 8K - 128K), and special program packs. These include Finance Pack, Spelling Checker, Pocket Spreadsheet, Formulator, Travel Pack, Portfolio and Maths Pack from Psion alone, let alone all the software available from third-party suppliers.

Far from being a simple (though very powerful) personal organiser, the Psion Organiser is a highly-expandable, highly-versatile machine.

On the road test

In use, the Psion Organiser displays a mixture of virtues and vices. Its compact dimensions allow it to slip virtually unnoticed into the slimmest executive briefcase or a reasonably sized pocket, while its slide-down keyboard cover doubles up as a very useful handle in use. The display is not backlit, but is clear enough for that not to matter. The most dismaying feature, however, is the non-QUERTY keyboard. The letters are arranged strictly alphabetically which might not be a problem for the near-illiterate, but for those who have made the effort and learned to use all their fingers on a keyboard it's a nightmare. Years of almost instinctive keyboard-tapping come to nought as your eyes lunge desperately from key to key, fingers hovering in jerky anticipation, waiting for a keystroke which is probably still minutes away.

It's a shame really, because otherwise the Psion Organiser is a delight. Its built-in software is almost instantaneous in operation, and its features so amazingly useful, that you wonder how you ever did without one before. Or, for that matter, how you're going to do without one now. Perhaps Psion would consider ...

PCW link

Of course the most interesting Psion add-on of all, for PCW owners, has got to be the Comms Link package. This device will let you transfer files from Psion to PCW and back again - and all, it turns out, with the minimum of fuss.

The possibilities are fascinating; archeologists, for example, could catalogue their finds on-site as they dig, and download the information to their PCWs when they get back. Estate agents could key in a whole afternoon's worth of house details as they work, instead of having to write it all down twice - once with pen and notepad, and again back on the office PCW. And trainspotters could log the movements of every double-bogied 6x4x8 DMU between West Bromwich and Clagheath without having to use a single envelope back, piece of newspaper or shirt cuff. ■

Psion-tifically speaking

The Psion Organiser Comms Link weighs in at approx £60, and consists of a small box that plugs into the Organiser's peripheral port at one end, and your PCW at the other. The Comms lead ends with an RS232 plug, so your PCW will need to be fitted with an RS232 interface to make the whole system work.

Using this lead, you can transfer database files, OPL programs, notepads and spreadsheets from the Organiser to your PCW - and back again.

The comms software for the Organiser actually loads from the plug which slides into the peripherals port. When you switch the Psion computer on (hit the ON button twice), you will find another entry, entitled Comms, has been added to the machine's main menu. To send files to the PCW, you must first set up the PCW as follows:

1 Boot up under CP/M and go through the folowing sequence of actions:

SETSIO 1200

PIP

Once the PIP asterisk prompt appears type the following series of commands:

A:FILENAME=AUX:

You can also save the file to the B: or M: drives, it doesn't have to be the A drive. You must do all this before attempting to transmit from the Organiser. Next you need to select Comms on the Organiser's main menu, then select the File option and finally select the file you wish to send. All that remains is to actually transmit the file. Files should be transferred in ASCII format, and can be read by insertion into a LocoScript document, or directly by Protext.

To transfer files from the PCW to the Organiser, the opposite procedure is used. Set up the PCW as before, and select the Organiser's transfer mode. Make sure you hit the Organiser's EXE key before you attempt to send the file from the PCW. The syntax at the PCW end this time is AUX:=A:FILENAME. Again, files can also be sent from either the B or M drives as well.

It's important to note that when PIP presents you with an asterisk for the second time you must type:

AUX:=EOF

then hit Return. This ensures the file will be saved correctly to the Organiser.

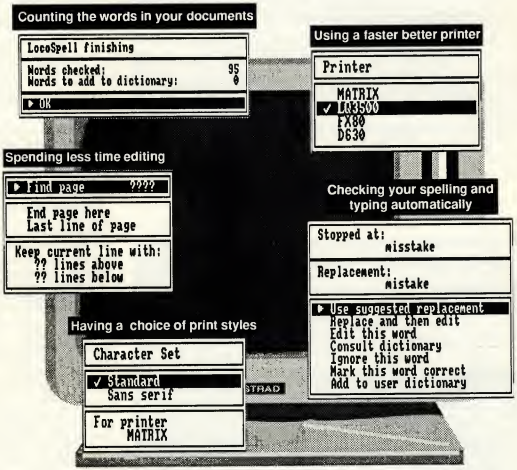
Keen DIY buffs will be sorry to learn that they can't bypass the Psion Comms Link and simply solder up their own leads. The Comms Link itself contains the necessary OPL language extensions and protocols needed for the Psion to transmit data, not the machine's built-in operating system.

Anyone having trouble transferring files between a Psion Organiser and their PCW can call Psion's Technical Services department on 01-723 0553 at any time between 10 am and 4.30pm for help and advice.

LocoScript 2 & LocoSpell

Just using the LocoScript which came with your PCW8256/8512? Then you're missing out...

YOU COULD BE :



LocoScript 2 is the improved word processor for your PCW – it's faster, easier to use and gives a better printout. LocoSpell for LocoScript 2 checks and corrects spelling: use it to spot your typing mistakes and count your words. LocoScript 2 works with all your existing documents, so there's no need to re-type anything! ...

We could go on, but there's a 16 page detailed leaflet explaining the benefits of the whole LocoScript 2 family. If you're not already convinced write to Katy Buchan at Locomotive Software and ask for a copy. LocoScript 2 costs **£24.95**, LocoSpell costs **£19.95** – **BUT BUY THEM TOGETHER AND SAVE £10.**

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FOR THE AMSTRAD PCW 8256/8512

LocoScript 2 & LocoSpell		£34.90 ☐
LocoScript 2		£24.95 ☐
LocoFile	for LocoScript 2	£29.95 ☐
LocoMail	for LocoScript 2	£29.95 ☐
LocoSpell	for LocoScript 2	£19.95 ☐
24 Pin Printer Drivers Disc		£24.95 ☐
Printer Drivers Disc		£19.95 ☐

Please send me details of the LocoScript 2 family ☐

Name _____

Address _____

_____

_____ Postcode _____

Note: All prices include VAT and UK postage

☐ I enclose a cheque for TOTAL £ _____

☐ Please charge my Access/Visa card EXP Date _____

Signed _____

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LOCOMOTIVE SOFTWARE
Allen Court, Dorking, Surrey, RH4 1YL
TEL. 0306 740506

FROM LOCOMOTIVE SOFTWARE – THE CREATORS OF LOCOSCRIPT ON YOUR PCW

OFFICIAL VERDICT

Mini Office Professional Plus – complete with spell checker and thesaurus – is here. Was it worth the wait? Rob Ainsley takes a look

MINI OFFICE PROFESSIONAL PLUS

£49.95 ● Database Software ● 0625 878888

Book look

Included free with the package is a revised version of the Mini Office tutorial book written by the well respected author John Hughes. It's a good clear guide to the new program, which is just as well as the manual is only a list of commands and doesn't explain much.

Words count

The spell checker claims to contain 80,000 words (which you can add to with your own dictionaries) and the thesaurus 50,000 words. 5,000 words is usually quoted as the average person's spoken vocabulary with perhaps twice that number understood in text. The latest edition of the OED has around 500,000 words plus as many technical terms.

Mini Office first appeared for the PCW towards the end of 1987. It was revolutionary: word processor, spreadsheet, database, graphics and comms modules all in the one package. Not only that, but the whole thing cost just £30, a price you'd normally expect to pay for just one of the programs.

The program unquestionably went out too soon. There was a whole colony of bugs – the closer you looked, the more species you could see, and it took several months to get them all pinned down. To make matters worse the manual had the readability of the MCC's Rules of Cricket: fine if you'd played the game before, but a mass of useless minutiae to the beginner.

But at that price, and with five well-designed and, for the price, astonishingly powerful programs, it was bound to succeed – and did. For small businesses, club secretaries, or just those who wanted to organise their household affairs, it proved ideal; the computer press raved, and Database claim to have sold 50,000 copies of the program, making it one of the most popular PCW programs ever.

Mini Office Professional Plus is the upgrade to Mini Office. It adds two modules to the five, a spell checker and thesaurus, and also tidies up a few loose ends dangling from the original.

Integrated society

So what's new? There's now a 'Setup system' option on the main menu which lets you specify that you want, say, the B drive to be used for data in each module, and most importantly lets you select the printer type you want. This eases things for 9512 owners with a dot matrix or 8000 owners with a daisywheel, and means Mini Office now works with 24 pin printers.

One significant advance is that you can export or import data from the database and spreadsheet. The concept of an integrated package was evidently lost on the designers of the old version: you can't use those figures from your spreadsheet in your word processor, or put that data from the database into the spreadsheet.

The new version, however, lets you load or save Ascii files in the database and spreadsheet, meaning you can move figures around easily from module to module now. At least, in theory. The spreadsheet works fine but the current version won't let you load Ascii files into the database despite the claims of the manual. Ascii file names must end in .ASC or Mini Office won't recognise them as such.

Cloudy spell

The main addition to the package is the spell checker. And here, unfortunately, the whole thing begins to fall down. You can't spell check a document while you're editing it, as LocoSpell allows you to; while editing your Mini Office document you press [f2] 'Spell' and get the helpful message 'save the document and exit to the main menu'. It's as convenient as having an outside toilet at three in the morning.

So you save, exit, and run the spell checker from the new main menu. Now you embark on a disc-swopping orgy that would confuse an Acid House DJ and which inevitably ends up with you saving your spell-checked document onto the Mini Office program disc.

The spell checker offers the usual choices of correcting a dubious word manually, ignoring just this occurrence (for example, a combination like RG in a postcode) ignoring all occurrences (a proper name, perhaps) or getting the dictionary to suggest an alternative. LocoSpell owners love this game as that program does so very quickly; with Mini Office you have a wait of a minute as it eventually decides that 'corruptino' might just have meant 'corruption'.

It works, but it's dreadfully slow. Having to save and exit your document is bad enough, but look at the times to spell check an all-correct 100 word document: LocoSpell, already there in the memory, zipped through in 14 seconds; Prospell took the same time, plus 10 seconds to load up; Mini Office took two whole minutes, plus 20 seconds to load.

There are crossword utilities (you type in ?L?W and it suggests SLOW, FLOW, BLEW, CLAW and so on) and anagram solvers (you type in BEDROOM and it suggests BOREDOM) but they are so slow as to be utterly useless – can a whole night really not be enough to turn ORCHESTRA into CARTHORSE? Some conductors you could mention can do it in two minutes. There's no excuse

Five out of five

The good news is that the original five modules are still there and still offer an impressive line-up of features. The bugs from the early versions have been fixed and a quick summary of each module should give you an idea how powerful each one is.

Word processor

It's a lightning fast program that lets you zip from top to bottom of even a 100 page document in a second or two. The word counter is invaluable – pressing [EXTRA]A displays the count at the bottom for you almost instantly. As well as all the features of LocoScript such as bold, italic, double width etc., you can print in reversed (white-on-black) or double height letters. There are commands to stop the printer at any point (to change a daisywheel or colour of ribbon for example) and you can send graphics to the printer too. There's no 'phrase' facility and the program takes the M drive for itself so you have to work on disc. There are also exotic features such as numbering pages automatically in Roman numerals!

Database

A good little card-index type database which lets you design pretty-looking 'cards' on screen with slots for name, address and so on, in a variety of letter sizes and styles. You can sort them into order, select just some cards (just the people who owe you money, perhaps) and even 'mail merge' them – get the word processor to write letters to those people inserting their name and address in each letter for you. You can print labels and summaries of the card indices, and even get calculations done for you, like totalling of subs paid so far. Workable, but a bit slow with large files – for heavyweight use (more than 500 cards, perhaps) you'd be looking at a specialist database like Masterfile, AtLast or dBase II.

Spreadsheet

A fast, powerful spreadsheet with no limit to the size of sheet. All mathematical functions are supported and this excellent program can be used even for heavy business use. You can print very wide sheets sideways on dot matrix printers.

Graphics

A little module that can produce bar-charts, pie charts and line graphs from data you key in, or automatically from data in the spreadsheet.

Comms

A very good program that supports Prestel and all the protocols (Xmodem for example) and lets you assign phrases to keys to log on more quickly.

for this; Protext takes seconds to perform the same tasks. To cap it all another bug means it won't spellcheck LocoScript 2 documents, despite the manual's confident assertion to the contrary.

Argh! It's... The Saurus...

With the thesaurus things go from bad to worse. First, you can't use it from inside Mini Office, but access it from the main menu. This means you can't consult it while writing – you have to save the document and exit – making its presence pointless.

It takes a few seconds to load up and asks you for the query word; suppose you want synonyms for the word 'rubbish'. You enter the word 'rubbish' and the thesaurus takes thirty seconds or so to look up and list on screen the three types of rubbish you might mean: refuse, a poor argument or an object not worth anything. You then type the number corresponding to the type of rubbish you want synonyms for and they appear on screen – typing 1 for example here gives you trash, garbage, refuse, junk and so on.

It all takes so long – a minute or two – as to be useless. Looking up 'rubbish' in Roget's index points you quickly to **rubbish 641 n.** (how come whatever you want is always in 'Prospective Volition'?) and a wealth of synonyms, allied phrases, linked words and concepts.

The final insult is that the thesaurus has obviously been lifted from that place divided from us by the same language. Ask for details on 'colour' and the thesaurus shrugs it shoulders; change it to 'color' and up come the suggestions. Whatever the merits of English as she was spoken on the Mayflower, Americanisms like 'gotten', 'traveling', 'thru', 'center' and so on should not be on a supposedly English writing aid.

The verdict

Mini Office was, and is, an excellent value for money package, thoroughly recommended for any club secretaries, small businesses, or just to someone who wants to use their PCW. But the extra modules added to make Mini Office Professional Plus are an opportunity missed. They've been welded uncomfortably on and, like a modern extension to a period cottage, just ruin it.

Sorry, but it isn't worth fifty pounds. If you haven't already got it, buy Mini Office mail order for twenty quid, and with the difference buy yourself Prospell or LocoSpell and a proper thesaurus from your local WH Smiths. And spend what's left on some flowers for a friend who's bought Mini Office Professional Plus. They'll need it. ■

PLUS

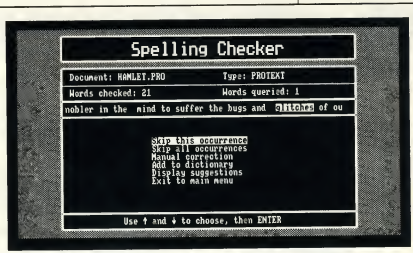
- ▲ Five excellent original modules
- ▲ Spell checkers
- ▲ Thesaurus
- ▲ Works with all printers
- ▲ Import-export means genuinely 'integrated' package
- ▲ Good tutorial book

MINUS

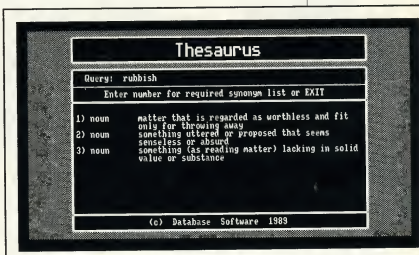
- ▼ Couple of irritating bugs
- ▼ Spell checker doesn't work from inside Mini Office
- ▼ Neither does thesaurus
- ▼ They're both dreadfully slow
- ▼ Thesaurus is American

RANGE OF FEATURES 4/5
EASE OF USE 4/5
PERFORMANCE 3/5
DOCUMENTATION 3/5

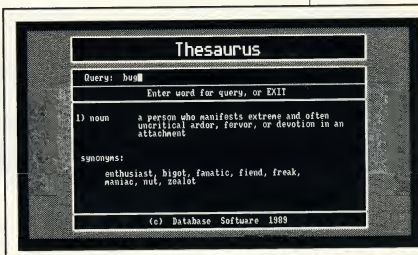
8000 PLUS VALUE VERDICT 3/5



The Mini Office spell checker will offer several options on a queried word – but not very quickly. Don't ask for it to suggest a replacement unless you're about to make a cup of tea. It simply isn't fast enough to be useful.



The thesaurus isn't integrated into the word processor at all. You have to save your document before you call up the thesaurus which first asks you what sense of the given word you want synonyms for...



...and which then gives synonyms according to the sense you chose. Surely though, a thesaurus is about linked words and concepts, not just synonyms? This is a another add-on that should have been left off.

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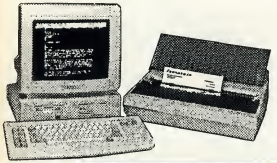

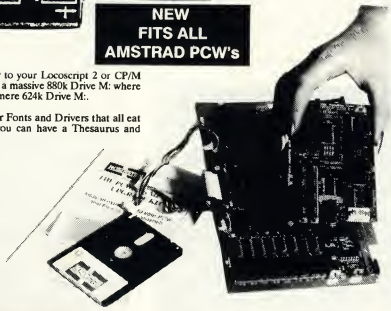

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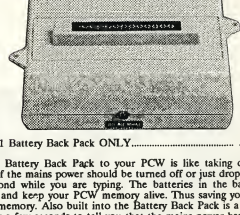

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A LITTLE TREASURE

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There are bug important questions like: why didn't the crew of the Marie Celeste change their cook rather than abandon ship? Why can't they get beer glasses in Dallas? And why couldn't they get the chap who used to have his hand up Basil Brush to operate Kylie Minogue? But you can never get the answers to such truly earthshaking questions and so, after a while, people get fed up with asking them and lose interest. However, really pointless questions exercise a strange fascination over many people.

The success of games like Trivial Pursuit led to a huge industry entirely dedicated to supplying answerable questions of mind numbing pointlessness. The attraction these questions hold presumably lies precisely in their answerability, the difficulty usually lies in their relative obscurity. UK Trivia Treasure hunt combines these two elements and even succeeds in adding a third.

The game opens with a map of part of the United Kingdom and the names of two towns between which you must navigate. Progress depends on getting the correct answers to the questions the game asks.

The maps are both one of the high points and a decided drawback. They are very well done, within the limits of accuracy imposed by using a character based screen to draw them on, and the resulting screens look decidedly attractive.

The problem is that they are also decidedly slow to produce, taking several seconds each to draw. This is all right to begin with but after playing the game for ten minutes or so you begin to wish there were some way to turn them off, or at least partly dispense with them.

While the screens showing your route can be justified it seems a bit redundant for the program to insist on redrawing the screen along with every answer, whether it be right or wrong. It simply slows the game up without providing very much entertainment value. Perhaps the programmers could have left an option to display the map of the area referred to in the answer for those ocassions when you really wanted to see it?

More fuel you

All of the questions have a geographical bent, referring to events or objects in a specific town or location. This is all very well if you know something about everywhere, but if you're the sort of person who can get lost travelling by train and has never figured out why the dotted lines showing county boundaries don't show up on the fields then you aren't going to win this game in a hurry. In fact over a series of several games I never did better than could be accounted for by chance.

There are two ways to lose, though they're really both the same way but made to look different. At the beginning of each game you're given a certain amount of fuel, indicated by a horizontal bar, and a second bar showing how much you need. If you run out of fuel you've lost.

If you give a wrong answer you still travel, but away from your target town which uses up fuel, and it is all too easy to end up so far away that you won't have enough fuel to get back on course and still make your destination. So you can be on the right track, but have made too many mistakes to get there, or simply be miles away and no way back.

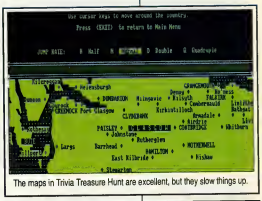
At each stage of the game you're asked a question and offered three alternative answers, just as on the machines I'm told you can find in some public houses. I found the level of obscurity too high (do you know where the 'Butter bell' is?) but it would certainly serve to give the game long term interest. Coupled with a decent Readers Digest guide to Britain it would while away a lot of winter evenings.

It would be nice if there were questions available on other specialist subjects; plumbing, the works of William Blake or EEC farming regulations – but alas, such is not the case.

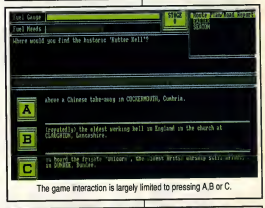
Late extras

When the game first loads there are two other options beside actually playing it. There is a short tutorial on the game as well as a rather nice touch; an option to tour the UK using the cursor keys. No game documentation is provided but there is a sheet detailing the way to make a UK Trivia Treasure Hunt Start of Day disc, which is well thought out.

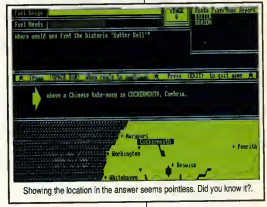
Overall, the game gives the impression that it has been carefully planned and put together (apart from a message telling you to turn your disc over on the 9512 – ignore it) and it certainly looks good on the screen. Unfortunately the speed of gameplay ensures that you'll never get over excited while playing it. At £24.95 it really is a bit on the expensive side – it might be worth waiting to see if any alternative sets of questions become available before splashing out. ■



The maps in Trivia Treasure Hunt are excellent, but they slow things up.



The game interaction is largely limited to pressing A,B or C.

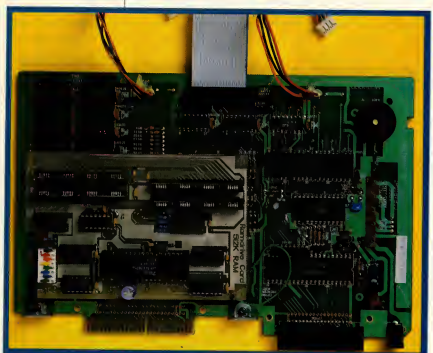


Showing the location in the answer seems pointless. Did you know it?.

Pluses	Minuses
▲ Attractive appearance	▼ A bit too slow
▲ Range of questions	▼ Can be obscure
▲ Varied routes	▼ No alternative subjects

CHALLENGE	3/5	ATMOSPHERE	3/5
EASE OF USE	5/5	INTERACTION	2/5

8000 PLUS VALUE VERDICT 3/5



In the 9512 the chips are all soldered in, and getting the board out in the first place is awkward. Better to accept Isenstein's offer of an exchange board or simply send the whole machine off.

THE SOFT MACHINE

Steve Patient feels a new sense of freedom as his memory expands

LocoScript 2 has now grown to the point where it's beginning to feel more than a little squashed inside the PCW. Except in its most basic form LocoScript 2 is awkward to run on an unexpanded 8256 machine. To take full advantage of the various add-ons such as extra fonts, printer drivers, LocoFile or LocoSpell requires the full 512k of an 8512 or 9512 PCW, and even that isn't always enough. It isn't difficult to find yourself in a situation where there is no useful space on the M drive to store and edit documents. Given this situation, is it so surprising that LocoScript 2 users, pushing machines to their limits, have started wondering what's going to give?

Well if Isenstein have their way you'll find that the internal memory limit on your PCW has just gone. Their new RAM board can upgrade your PCW to a massive 880k of M drive. Enough to load in every LocoScript add-on program, all the fonts there are, several printer drivers, all three dictionaries and your own user dictionary, a few LocoFile databases and some chapters of your latest book besides – that should keep even the most demanding LocoScript owner happy for some time.

At present Isenstein only have boards that fit internally. There are arguments both in favour and against this way of doing things. The main pros are that the upgrade is permanent and invisible, everything is inside and out of sight. Since there is no box to supply, the price can be kept down as well, which has to be a point in its favour.

Inside out

Against an internal upgrade there is the difficulty of doing it yourself. For anyone unfamiliar with circuit boards, electronics and soldering irons this is no trivial task, and even for the expert it's tricky. Fitting the board into the 8512 (or the 8256) involves completely removing the main circuit board of your computer. The Z80 microprocessor and one of the existing RAM chips have to be taken out of their sockets and placed in new carriers on the 512k daughterboard. After that there is still a wire to be soldered from the main board to the daughterboard and then, with a sigh of relief, everything can be put back together.

Although it sounds fairly daunting this procedure is covered step by step in the documentation accompanying the RAM upgrade and could be done by any reasonably confident and careful PCW owner.

The situation with the 9512 is a little different. Inside the case the main board is mounted with the power supply board and is harder to get out. Worse, the Z80 is soldered into the main board, as are the RAM chips, and de–soldering chips, without causing any damage, is a difficult, fiddly job that takes practice. Altogether the upgrade on the 9512 is not a job that can be recommended to an amateur and one that few professionals would be that keen to undertake.

Fortunately, you don't have to attempt the job yourself since Isenstein will do it for you, but that still involves a fitting charge, the temporary loss of your PCW, and the cost of packing and sending your PCW to Wales by carrier. All in all it's a lot of fuss to go to for an upgrade, however desirable.

Isenstein say that for the time being they will only be

Explanation time

For those readers new to the PCW it might be worth explaining just what a RAM drive is, so here goes. To work properly computers need some memory to run their programs in – this is normally called the TPA (Transient Program Area). All programs are loaded into this area of memory by the operating system and then the operating system gives the program control of the machine. Obviously these programs have to be loaded from somewhere.

There are a variety of different mediums that can be used for program and data storage but on the PCW only the two best ones are provided. For long term storage magnetic discs are used, and these can be either the original floppy disc drives that came with the machine or a hard disc drive. In both cases the data or program is stored as a series of magnetic impressions on a disc.

The alternative for short term storage is RAM (Random Access Memory) inside the machine. This RAM consists of many Silicon chips that store information in microscopic electronic switches. All of the RAM chips used by the computer are exactly the same whether they are used by the computer for its TPA memory or for a RAM disc. However, the operating system believes that the chips that constitute the RAM drive are really a disc drive and the computer can read and write to it just as if that were the case.

The way in which the PCW uses memory internally is very sophisticated. In fact much of it is permanently hidden from the programs that run on the PCW. This very sophistication is what allows Isenstein to build their RAM drive in the first place. All the hardware and software support for extra memory was built into the PCW all along, it's just that no-one has ever tried to take any advantage of it before now.

There are only two differences from a users point of view between RAM discs and magnetic discs: the RAM disc loses anything stored on it when the machine is switched off and it is many times faster than magnetic disc storage. Because of the near instantaneous access from the RAM disc it makes sense to keep programs and data there if it's in constant use.

Second opinion

Because of the importance of an enlarged RAM disc to LocoScript user, we asked Locomotive to take a look at the RAM drive at a lower level than we could manage.

As we already knew from speaking with their Technical Director, Richard Clayton, LocoScript 1 can't use the extra memory. It was simply never written to take advantage of more than a 512k machine. Isenstein say they have a patch for LocoScript 1 but we never did get to see it. Anyway, as Locomotive point out, such patches are against your licensing agreement – they also say that even patched LocoScript 1 won't work properly with the RAM drive. The answer is to upgrade to LocoScript 2.

More interesting is that the board fails to pass the standard RAM test as supplied by Amstrad themselves. This is the test that Amstrad use on the production lines to test the boards prior to installation in the PCW computers. The test comes in the form of software (for the 8000 series machines) and hardware for both that plugs onto the expansion bus (some readers may be familiar with the memory test as Locomotive will sometimes send out the test disc to customers to determine whether their software or hardware is faulty).

What this means is that although the RAM board works, and works well, it has been implemented in a way other that that which the original board designers (MEJ Electronics) intended. Since this test is also handed out to those who repair PCWs any machines with the RAM board fitted will presumably fail the memory test even if they're actually suffering from some other fault. Whether this will turn out to be important or not remains to be seen.

offering the internal daughterboard; they can do it more cheaply and demand for it is so strong that there simply isn't any need to market an alternative. They're the only people offering this kind of RAM upgrade so it is difficult to argue that they should be doing it any other way; however, now it's been done, how much longer will it be before a less nerve wracking plug-in-and-go memory module appears?

Mum's the word

Normally reliable sources assure us that it is perfectly possible to design a memory expansion pack for the expansion bus, and the same sources suggest that Amstrad once considered designing and marketing such a thing. We don't know why it never happened but the sudden rise in RAM chip costs a few years ago may have had something to do with it. Amstrad always need to be convinced that there's a mass market for a product before they'll commit themselves to manufacturing it.

It's interesting that Isenstein are actually selling their RAM board more cheaply than the price it costs to go out and buy the memory chips alone. Current 256k RAM upgrades for an 8256 are selling at around £60; for just £98 you can add 512k to your 8256 (giving you an M drive of 624k) which represents substantially cheaper memory. It's all down to Isenstein's far-sighted policy of buying when and where the chips were cheap rather than waiting until they had to have them.

There's more to it of course; the chips Isenstein are using are mainly in the form of SIMs (Single In-line Modules) of memory, not the kind that plug neatly into the board carriers. This kind of memory is appearing more and more often in computers but it isn't practical to do your own 8256 to 8512 upgrades with it.

So, you've upgraded your RAM drive to 880k, what can you do with it? As we've already suggested, for the dedicated LocoScript enthusiast the upgrade is a great boon. It may take a little longer to get everything loaded up to start off with but after that actually getting on with the day's work is a whole lot easier. The only discs you need are for the end of the session when you transfer any altered documents or databases from the M drive to their permanent storage on disc.

But what about CP/M users? Here the advantages aren't so clear cut. A pleasantly enjoyable but minor gain is being able to copy an entire 720k disc in one go, without any more disc swapping, but on the software front there are several problems.

Isenstein themselves say that any program that uses standard CP/M BDOS calls for file reads and writes to the RAM disc will have no problems at all; unfortunately some of the most popular programs on the PCW aren't so well behaved. The first casualty is Flipper, which simply doesn't work at all, though Software Imperative say that they will soon have a version that can handle the RAM drive – and give you two complete 512k PCWs to play with.

Soft survey

Probably the best selling CP/M software on the PCW is the Mini Office suite of programs – sorry, the word processor module crashes the machine while trying to load. This applies to both the original version of the suite and the new upgraded 'Professional' package. The good news is that the other parts of the package seem to work as you'd expect.

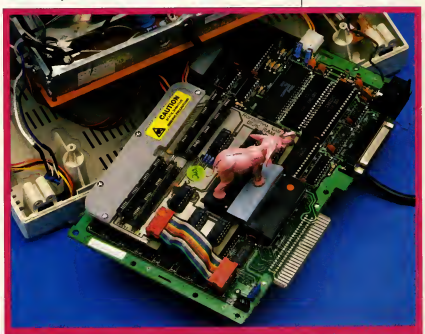
Masterfile 8000 works, and indeed is much improved. The program can make use of the complete RAM drive allowing anyone with a 720k disc drive to use bigger files (the size of the RAM drive is the limiting factor with this database package). Any tailor-made database package written using dBASE II or Mallard Basic and Jetsam can make use of the larger RAM drive with no problems.

On the desktop publishing packages front we tested Stop Press and Microdesign to find that the first worked and the latter didn't, though there doesn't appear to be any improvement to Stop Press. Creative Technology say they are working on Microdesign and it will be able to take advantage of the expansion board soon to give more definition to your pages.

Apart from LocoScript 2 users the biggest gain would seem to affect database users. Anyone using a database written in either Mallard Basic or dBASE II will find that they can run much larger databases in the M drive (providing they have a 720k disc drive to load it in from) than they could before, thus speeding up their work considerably. All in all the big RAM drive seems to be an idea whose time has definitely come. ■

Late news

A rumour has reached us of a one megabyte box designed to plug straight on the back of the PCW. So far this really is only at the design stage but we're told that it should fit onto any PCW. At the moment there is no word on price but if all goes well there should be an announcement "in a few months". No, you didn't hear us say Locomotive



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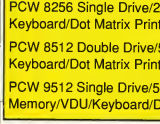

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PAID OUT

Andrew Bibby is paid far too much to look at a new payroll package

DG PAYROLL ● £39.95 and DG Payroll Plus £79.95 ● Digita International ● 0395 270273

VAT is supposed to be the thing that every small business man or women dreads the most, but the real killer can be the operation of the Pay-As-You-Earn (PAYE) system.

Each employer has the legal obligation to deduct income tax and national insurance from their employees' wages before handing over any money. The Inland Revenue does its bit to introduce the PAYE system to new businesses by sending them a fat manila envelope packed full of tax tables, National Insurance tables and deductions sheets, not to mention a stack of the requisite official forms to be used.

In fact, one glance at the contents of this envelope could be enough to weaken the resolve of even the most committed new entrepreneur. However, if PAYE is complex and confusing to newcomers (which it is) and if operating a PAYE system requires careful, methodical figure-work (which it does), surely it is just the sort of thing which computers are ideally suited to take over?

Software house Digita International certainly think so, having recently launched their new DG Payroll software package for use on PCW 8512s and 9512s. Although not the first such package on the market (Sage, Camsoft, MAP and Compact have had payroll programs for some time), it is competitively priced (including VAT).

The problem with any computerised payroll program, however, is that although the basic idea behind PAYE is very simple, the variety of possible situations encountered when operating PAYE is enormous. Employees may be paid weekly, monthly, fortnightly, on a four-weekly basis, or on a completely casual basis. They can be given holiday pay, subbed their wages in advance, paid extra for overtime, paid less for strike action, given redundancy awards, and so on.

Sick as a parrot

The government didn't help when it introduced Statutory Sick Pay, making employers responsible for paying the state benefit to employees off sick (SSP payments are reclaimed by the employer from the state). In recent years, SSP has been joined by Statutory Maternity Pay, and by new concessions affecting tax and national insurance, including the Payroll Deduction Scheme for charitable donations, Profit-Related Pay and the Enterprise Allowance Scheme.

DG Payroll copes with all these eventualities, though the program is dauntingly complicated to a newcomer. In fact, Digita stress that the package is designed for people who have already operated a manual PAYE system – you'd be rash indeed to try to operate the program without knowing anything about PAYE first.

The package can handle up to a hundred employees (though the records of workers who leave in the course of the financial year must be retained until the year end). The same software can handle both weekly paid and salaried staff, though not at the same time – both operations have to be kept separate, on separate discs. The program can also be started at any time during the financial year, though it would make practical sense not to computerise your payroll until the beginning of a new financial year, on April 6th.

Information about your company and about your employees has to be keyed in to a series of reference files and 'employee master files' when you first computerise your PAYE records. Subsequently, when each weekly or monthly pay time comes around, you initiate the so-called 'payroll cycle', which automatically calculates each employee's gross pay, deductions and net pay. Pay slips (a legal requirement) can be printed out, as can various other records for retention by the employer, including a coin analysis table if you need to get the right quantity of hard cash from the bank to pop in the wages envelopes.

Manual operation

DG Payroll comes with a 60 page manual, and with the offer of 60 days' free support. Digita say that some people new to computing have found it hard to get to grips with the program, and they add that they are working on revising the manual in time for the launch of the PC version of the software. In fact the current manual is really not too bad, given the amount of information it has to convey. Users are encouraged to work through a series of exercises using a dummy company Demo Ltd, before entering their own company information – and this is certainly time well spent.

DG Payroll, according to Digita, was devised by PCW owner Barry Lucas, who used his Amstrad to prepare the program. Mr Lucas's background is as a senior payroll manager responsible for several Royal Ordnance factories, and everything about the program suggests that it has been devised after experience with a large employer.

Mum's the word

Income tax and national insurance rates are automatically programmed in to the software (Digita assure me that copies for sale include the current year's rates, though the review copy I was sent was still set up for 1988-9 rates, or even in one instance 1987-8 rates: you should check). At the year end, when rates normally change, owners of the Payroll Plus package can alter the details for themselves; however, anyone with the standard Payroll software will have to return it to Digita for updating, at an additional £20 cost. (Although tax rates generally only change annually, National Insurance changes are sometimes introduced in the autumn, so users should be aware that the standard Payroll package may not turn out to be the bargain it seems).

The horribly complex Statutory Sick Pay calculations are also handled automatically by the program, statutory Maternity Pay on the other hand has to be manually calculated – this is probably a sensible compromise, though it is very unfortunate that the current manual gives incorrect information about the calculation of higher-rate SMP.

P45 forms, given to employees who leave, are produced automatically, and the program also has other useful features, such as the ability to change all standard tax codes in bulk (usually necessary as a result of the Budget changes), and an optional facility to round-up net pay.

Finally, at the year end, DG Payroll satisfactorily number-crunches your record files, and prepares the necessary P60/P35/P11 details, and the end of year employer's return. ■

To be or not to be

The question has to be whether a smaller company – certainly one which finds a PCW adequate in other ways for its computing requirements – would really be well advised to opt for computerising its payroll at all.

Using pencil, calculator and tax tables to work out employees' pay is tedious work, and it's easy to make errors. But using a computer program like DG Payroll can lead to errors, too, unless you are absolutely sure what you are doing. What's more, it can be harder with a computer program to retrace your steps to correct the mistakes. Ultimately, the case for PCW users splashing out on a payroll package is thin, but if they do, DG Payroll is certainly one package worth a serious look.

PLUSES	MINUSES
▲ Good menu arrangement	▼ Understanding the PAYE essential
▲ Meets statutory requirements	▼ Basic version of software needs frequent updating
▲ Automatic calculation of deductions, SSP etc	▼ Won't save time for smaller companies
▲ End of year routine could save time	

RANGE OF FEATURES	5/5	EASE OF USE	2/5
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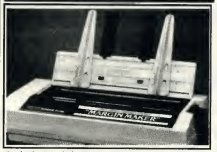

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SPEAK EASY

Andrew Chapman kicks off our new guest columnist spot. He isn't just talking about readability but – if you look at Listings – doing something about it.

English – the mother tongue, so they say. We cannot do without it, yet we often pay little attention to it. It's arguable that we can't even call it our own language, of course – Daniel Defoe wrote of 'Your Roman-Saxon-Danish-Norman English' – but the fact is that we use it, and frequently misuse it.

Our language is often regarded as the universal language, one that unites men and women of every age and race, but there seem to be three main attitudes toward it in its country of origin. Firstly, there are the religious fundamentalists of the linguistics world, bemoaning the loss of concern for grammar; for them, the continuous present subjunctive is second nature, and the agglutinative character of flexions is mere child's play. In opposition to these purists come the followers of the Plain English Campaign, fearlessly championing simplicity, challenging bureaucracy, and looking rather worried when they meet words of more than two syllables.

The third group perhaps take us yet another syllable back towards our grunting-caveman history – the progressives who believe that language is living, we should speak it like wot we wanna, and throw grammar to the wind (in the hope that she won't blow back again?). This is a good, practical approach, one might think, but if there are no agreed standards, we will all be talking a different version of English, and there will be no communication at all.

Oh, one says!

George Bernard Shaw, who wrote a fair amount in English, wrote in his preface to Pygmalion that "The English have no respect for their language, and will not teach their children to speak it." Perhaps a certain amount of accuracy has indeed been lost over the years, but language inevitably grows and develops, and that's why we don't still talk like Shakespeare (unless we're royalty, of course).

Speaking of royalty, one is reminded of Prince Charles' recent concern for the "bloody awful" English of his aides. He may be right, but people don't like to be told of their faults – and however much we value accuracy in our language, the tendency toward nitpicking should be evaded – I mean avoided.

Where do we humble PCWers lie in this deadly minefield of syllables, syntax and solicitors' letters? Thanks to our metal and plastic colleagues, we have no excuse for mistakes. Revising our writing is quick and easy, and software such as LocoSpell helps iron out our literary inadequacies and the inevitable computer dyslexia. Perhaps what we also need, though, is LocoGrammar, the indispensible (if not yet available) program that will courteously point out that we have split our infinitive or ended a sentence with a preposition. The trouble is, would our time and effort spent slaving over a hot keyboard be wasted? After all, if we complain about Prince Charles, who wants to be corrected by a computer?

One thing that even the PCW will never do is be able to improve style; this is the watchword of writing, as it determines what sort of reader is going to take the trouble to read our literary masterpieces. Some years ago, the FOG index was invented. This is supposed to be a light-hearted guide to the readability of any piece of English, calculated from the number of words per sentence and the percentage of these which have words of three syllables or more. 'The Sun' shines through the fog with an index of around 25, other papers reach as high as 40.

Hire diploma

Recently I wrote a short BASIC program to calculate the approximate FOG index of my LocoScript files, based on the number of words longer than 7 letters – slightly easier than programming the PCW to recognise syllables and allophones. The program tells me that this article has a FOG index of about 39. This, I hope, is about right for those expected to read it.

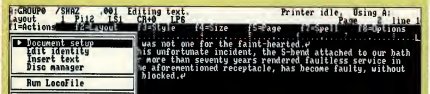
Andrew Chapman ponders on the language that people use and whether or not anyone understands it anymore.

Anything above 50, and there is a serious communication difficulty for all but professors of English and writers of hire purchase agreements, and below 20 would probably be insulting to a coffee table.

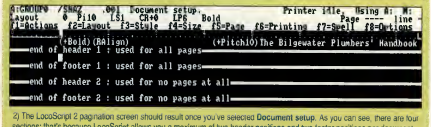
We probably shouldn't take the FOG index too seriously, though. What ultimately matters, of course, is whether a piece of English can be understood or not – it is no good writing a 10,000 word dissertation on the advance of antedisestablishmentarianism in modern society if no-one wants to read it, however impeccable the English may be. On the other hand, the writing needs a certain amount of sophistication if it is to be of any use at all in communicating with people, be it the latest exploits of the cast of 'Neighbours' or an article on varieties of wood (is there a difference?).

Anyway, until LocoGrammar comes out, and until artificial intelligence develops to the extent that a PCW becomes editor of this magazine, it looks as though we're on our own when it comes to how we choose to use our language. It remains to be seen what the children of the mother tongue will be like – perhaps English will split, with the Plain English campaigners going one way, and the official leaflet-writers going t'other, and never the twain shall meet. Which English will you be speaking fifty years from now? ■

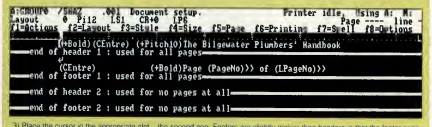
LocoScript 2



1) To set up the footers in your document, you need to select the fundamental **Document setup** option from within the [f1] Actions menu. There are two Actions menu, though; the one we're interested in is the one that's available when your document is displayed on the screen under Edit mode – not the one that is available to you at the Disc Manager Screen.

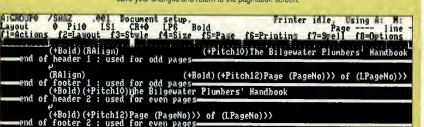


2) The LocoScript 2 pagination screen should result once you've selected **Document setup**. As you can see, there are four sections: that's because LocoScript allows you a maximum of two header positions and two footer positions per document – just in case you fancy slightly different layouts for left- and right-handed pages. For the moment, though, the stage is set for just one header and footer layout throughout the whole document.



3) Place the cursor in the appropriate slot – the second one. Footers are slightly thicker than headers in that the footer zone starts immediately below the last line of document text on the page. Consequently, before you do anything, press the carriage return key to create a blank line. Start typing in the correct command to insert the 1 of 15, 2 of 15 page-numbering format.

4) To use both sets of pagination text, open the [f5] Page menu from the pagination screen and select the **Header/footer options**. Change the default selection from **All pages** to **odd pages**. This relegates the footer – and indeed the header – you've already set up to all the document's odd-numbered and therefore right-hand pages. Press [ENTER] then [EXIT] to save your changes and return to the pagination screen.



5) Place the cursor in the fourth and final footer slot on the screen (**end of footer 2: used for even pages**) and start typing the footer that will be used on all the even-numbered, left-hand pages. You may have to right-justify your first footer so that it appears at the bottom right-hand edge of the page on final printout. The second one, justifies by default against the left-hand edge. Footers, like headers, can make use of all LocoScript 2's style and size enhancements.

THE BOTTOM LINE

Numbering those pages: Sharon Bradley takes you first-footing with LocoScript

Watching your dot matrix printer translate into presentable page by page manuscript-form the cobbled and recobbled together thought processes of many days' or weeks' work, you will have noticed that each page it produces has two gaps that are always left blank at the top and bottom. These spaces give the printer something to grip as the paper feeds through it.

Last month, we saw how to take advantage of the three-line header zone, below the top gap, for the purposes of producing slick and professional-looking multi-page documents. When used in conjunction with the footer zone, however (just above the bottom gap and four lines deep), the effect is one of a more 'complete' page, and, if you use them wisely, a much clearer one as well.

If you're in the throes of producing a multi-page document, then it seems likely that, at some stage, you're going to want to number the pages. Look at any professionally-produced book or magazine; the page number is usually placed at the bottom of the page – sometimes in the centre, sometimes nearer to its bottom outside edge. This is a typical use to which the footer zone can be put.

Say, for example, that The Bilgewater Plumbers' Gazette is a fifteen page document. LocoScript provides you with two ways of numbering those pages: you can give each page its appropriate number, from one to fifteen, or, you can number them like this: page 1 of 15, page 2 of 15, and so on.

LocoScript 2

Footer text, like header text, is entered through the **Document Set-up** option of the [f1] Actions menu. There are two Actions menus in LocoScript; we're interested in the one that can be opened while your document is being edited on screen.

The resulting pagination screen is divided into four sections; just as LocoScript allows you to set two headers for your document – depending on whether you want different formats for right and left-hand pages – so it gives you the choice of setting up two different footer layouts.

For the moment, though, the pagination screen is making provision for just one footer which will be used on all of the document's pages. Since we're using the same document as last month, the header is ready and waiting. Place the cursor in the section just above the text that says '**end of footer 1: used for all pages**' and start typing.

Since the footer zone follows on immediately from the bottom line of document text, it's a good idea to hit the [RETURN] key to create a blank line. To insert the current page number, centred, between two hyphens, at the bottom of every page, you need a piece of text that will tell the program to do just that:

(CEntre) –(PageNo)(special character)–

Press the [+] key (the one to the left of the spacebar) along with [P] and [N] to produce the current page number (**PageNo**) code. The program, however, can only print the page number if some space has been reserved for it.

To do that, you must type a <, a > or a = for each character space required. If your document has more than a hundred pages, leave three character spaces; if 99 or under, you'll only need two – and so on. Which of the three special characters you use depends on where you want the number positioned in the space provided; < positions it on the left, > on the right, while = centres it.

If you prefer the page 1 of 15, page 2 of 15 format that we mentioned earlier, the code to insert in the same space is as follows:

(CEntre) Page (PageNo)>> of (LPageNo)>>

Again, press the [+] along with [L], [P] then [N] keys to produce the last page number (**LPageNo**) code. Each of the two groups of >> leaves a gap of two spaces and tells LocoScript to print the numeric characters over to the right of the space.

Finally, return to the document and **Save and print** the pagination changes.

On the other hand ...

If you prefer to use a different footer layout for left- (even-numbered) and right-hand (odd-numbered) pages, the second set of pagination text comes into play.

Go back to the pagination screen and select the **Header/footer options** in the Page menu; then select odd pages. This action determines that the one footer you've already set will be used for all right-hand pages.

Consequently, when you get back to the pagination screen, place the cursor in the space just above where it says '**end of header 2: used for even pages**' and type in your second header text.

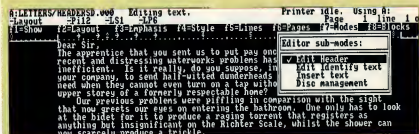
LocoScript 1

Producing the same effects in LocoScript 1 requires the use of some very different key-presses and menus.

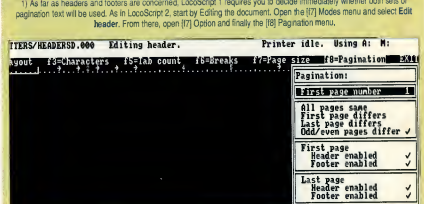
Before anything else we need to access the pagination menu. This is split into four sections, the first one of which asks you to insert the page number of the first page of the document (it needn't necessarily be 1). The second section ascertains exactly what differences there will be (if any) between right- and left-hand footer (or header) layouts. The third and forth sections, meanwhile, (just as in LocoScript 2's **Header/footer options**) allow you to make 'special' arrangements for the first and last pages of your document. It may be, for example, that you prefer a heading not to appear on the first page, or a footer to be ignored on the last; these decisions are made here.

To set up different footer layouts, move the cursor from **All pages same** to **Odd/even pages differ**. All that remains to be done is to insert the appropriate pagination text – either the –1–, –2–, or Page 1 of 15 format – into the correct slots on the pagination screen. This is done in much the same way as in LocoScript 2, the main difference being that you will have to use the [f6] Pages menu (**this Page Number** option) to produce the PageNo code we saw earlier on. ■

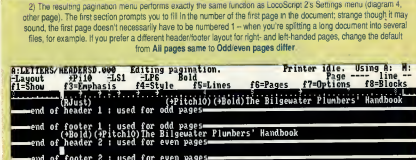
LocoScript 1



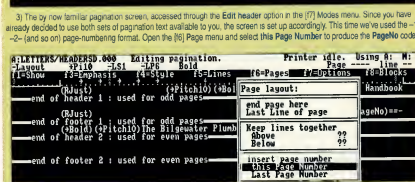
1) As far as headers and footers are concerned, LocoScript 1 requires you to decide immediately whether both sets of pagination text will be used. As in LocoScript 2, start by Editing the document. Open the [f7] Modes menu and select Edit **header**. From there, open [f7] Option and finally the [f8] Pagination menu.



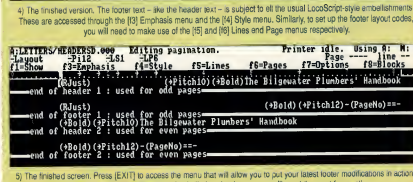
2) The resulting pagination menu performs exactly the same function as LocoScript 2's Settings menu (diagram 4, other page). The first section prompts you to fill in the number of the first page in the document; strange though it may sound, the first page doesn't necessarily have to be numbered 1 – when you're splitting a long document into several files, for example. If you prefer a different header/footer layout for right- and left-handed pages, change the default from **All pages same** to **Odd/even pages differ**.



3) The by now familiar pagination screen, accessed through the **Edit header** option in the [f7] Modes menu. Since you have already decided to use both sets of pagination text available to you, the screen is set up accordingly. This time we've used the –1–, –2– (and so on) page-numbering format. Open the [f6] Page menu and select this **Page Number** to produce the **PageNo** code.



4) The finished version. The footer text – like the header text – is subject to all the usual LocoScript-style embellishments. These are accessed through the [f3] Emphasis menu and the [f4] Style menu. Similarly, to set up the footer layout codes, you will need to make use of the [f5] and [f6] Lines and Page menus respectively.



5) The finished screen. Press [EXIT] to access the menu that will allow you to put your latest footer modifications in action. The first **Use this pagination** option is likely to be the one you will need the most frequently.

VIEW TO SUCCESS

Presentations with The Desktop Publisher. Mathew Holbrook explains

Mathew Holbrook is studying busines and has found that the power of his PCW has done a great deal to put his studies onto a sound business footing

I still think back to the dark days of '83-'84 when I was considering buying a disc drive and printer to catapult my Commodore VIC-20 into the 20th Century. How glad I am now that I didn't have the necessary £460 plus. Those days of 22 column by 16 row screens and cassette tapes make me realise just how far the computer industry has come in the space of a few years.

By September '85 I had begun a B/TEC National Certificate in Business Studies. As is often the case nowadays, the emphasis was very much on continuous assessment; this meant undertaking some sort of assignment – usually in the form of a report or brief – each week. These documents often had to be supported by other visual material, like posters and leaflets.

For the purposes of such assignments, the student is usually placed in a particular situation with a rather specific problem to solve. He or she then has to prepare an answer and communicate his or her findings in the correct format.

Script-ease

Initially I was doing these assignments on a prehistoric typewriter, with keys that had to be hit with the weight of a sledge-hammer. By February of 87, I was becoming somewhat despondent, and decided to make the big break and purchase the PCW 8512. I had seen an advertisement for the Amstrad PCW one day in a magazine I happened to be flicking through. For the price of the Commodore upgrade I could get a 256k computer with monitor, disc drive and printer – all in one go.

The first few days of LocoScript, CP/M, Basic and Logo were a revelation, but because I had the last few months of my course to complete, I had to be quite disciplined. I restricted myself to dabbling in the delights of my new acquisition for a few minutes each day.

I attempted to do my next assignment using LocoScript. It was a joy; no more did I have to type up a whole week's work from hastily scribbled notes, only to find just before I handed it in, that I had missed out a whole paragraph.

By the time my Higher National Certificate course began the following September, I had upgraded to LocoScript 2 and become thoroughly well-acquainted with The Desktop Publisher. My PCW moved into overdrive. Not only that, but a fleet of PCWs had invaded the college library over the summer break – ideal for putting the finishing touches to the odd assignment when I wasn't at home.

The arrival of The Desktop Publisher completely revolutionised the presentation of my oral assignments. Throwing away the shoddy leaflets of my typewriter and stencil days, I began to produce a few icons to stick on my reports and even began designing their covers.

Icon do better!

One of my most memorable assignments at this stage was to produce a report on information flow in a business organisation from a case study provided. That night I sat down in front of my PCW and set to work producing the illustrations that would go with it.

There were lines showing input and output, the stages of processing and the different types of information available at the various stages. The diagrams were littered with icons – most of them pinched from the Desktop Publisher's supplied selection of clip art. The report was well received at the college and I found myself answering questions from several people as to how I had produced it.

When I'm giving a presentation, I particularly like to have a summary of what I'm talking about displayed on an overhead projector as I speak. It sounded like another task for The Desktop Publisher. I obtained some viewgraph plastic from the college and set to work. Each viewgraph was intended to summarise what was being presented in a few simple sentences. Each sentence would have its own icon to get the message across pictorially.

I produced the text quite easily from one of the many fonts supplied with The Desktop Publisher package. The icons were again mainly produced from the clip-art graphics supplied, but I also had to draw some of them myself; they came out surprisingly well.

I simply place the viewgraph in the PCW's printer and print on them as if they were paper. They're surprisingly easy to use; most of them are A4 size anyway and fit into the printer quite snugly.

A carbon ribbon usually gives the best impression, but you have to be careful not to smudge the viewgraph once it's printed out. The best method of carrying them around is to put them in a cardboard folder, with each sheet of plastic between two sheets of paper.

There's no way now that I could go back to my former, 'manual' system of presenting assignments again. I can produce my reports over a whole week, typing and amending the work as and when I have an idea; I can use old assignments as the basis for new ones and can produce accompanying documentation with ease – especially as the college now uses PCWs as well.

I appreciate that to say I don't know how I managed without my PCW probably sounds like a well-worn cliche: it's also very true. ■

Fonts of inspiration

Wherever a group is involved with a presentation, I believe that name cards are another important feature. Again, The Desktop Publisher came up trumps. The group's names were set in the package's Tri-Dee font, and then printed out onto some thin cardboard with a small safety-pin taped to the back. It worked wonders.

Finally, I produced some handouts to accompany the talk, using a combination of LocoScript and The Desktop Publisher. They produced a winning combination. The presentation, once over, elicited a unanimous response from the lecturers: 'Excellent visual aids – a lesson to us all!' Subsequent presentations followed the same pattern with similar results.

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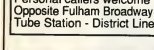

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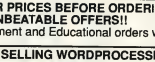

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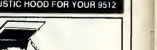

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TOODLE PIP

From the obvious to the esoteric, PIP can do things to a file that you never thought possible

Of all the utilities on all the discs in all the world PIP seems to have more possibilities than just about any other. So many in fact that it can be hard to know where to start. So we'll start with the name; which like so many others in computer circles is an acronym. In this case it stands for Peripheral Interchange Program, which is in itself another computer industry tradition in that it's something of a misnomer – PIP doesn't swap peripherals, it swaps files between peripherals.

Simply put, if you want to get a file from one place to another then PIP is the utility to do it for you. The file in question can be any kind of file: data, binary or text, it doesn't matter. In fact the file can be a pretend file and not a real one at all, PIP will pretend that any kind of input or output to or from the PCW is a file and transfer it accordingly. It's this kind of flexibility that makes PIP so powerful a tool for the CP/M user – and as you'll see, for the LocoScript user as well.

The first thing to do if you've never used PIP before is to get it from your copy of the relevant master disc. You'll find it on side two of your LocoScript master disc (the one with CP/M on) if you're an 8256 or 8512 user, and on your CP/M disc if you have a 9512.

It's the PIPs

There are two ways to use PIP; it can either be invoked from the command line with a parameter string (that just means with a list of commands) or it can be used in interactive mode by simply typing PIP on its own with no command tail. The first way is quicker for a single straightforward task while the second method is far and away the best for investigating the many things PIP can be made to do. The first thing you're going to do is to use PIP to copy itself to drive M with the command:

PIP M:=A:PIP.COM

The drive will whirr and then the prompt will re-appear. Now type PIP on its own and you'll get various bits of information on screen followed by a new prompt, an asterisk. This is PIP's prompt to which it will return after carrying out each command. To return to the CP/M prompt you need only type [ALT]c or press [RETURN].

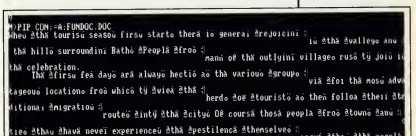
PIP can be used to copy a file from one disc to another or even to the same disc. You can do this immediately by making another copy of PIP on M with a new name. At the asterisk prompt type:

M:NEWPIP.COM=M:PIP.COM

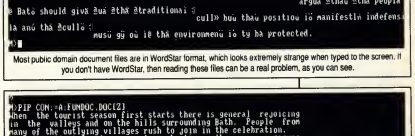
Almost instantly the asterisk will re-appear. Press [ALT]c to get back to the prompt and do a dir on M and you'll see that you now have two files there. They're two copies of the same file with different names. This ability to copy and rename a file at the same time is useful in its own right. If you now type NEWPIP you'll be back to the asterisk again ready for another trick.

Mailing disc

What you're going to do now is to copy a file from one user group to another. To do this you need only add the group



Most public domain document files are in WordStar format, which looks extremely strange when typed to the screen. If you don't have WordStar, then reading these files can be a real problem, as you can see.



The problem with the WordStar files is that the high bits on the last letter of every word are set, as well as the high bits on the carriage returns. PIP can Type the file to the screen or to another file unsetting these bits for instant legibility.

In and out

PIP will send files to a variety of devices, not all of which are supported on the standard PCW. A valid file specification is always a valid source or destination but there are several logical devices (which may or may not have a physical device attached to them) that can be a source or destination. Those supported by the PCW are listed below.

Destinations	
LST:	**The current printer (normally the one supplied)**
PRN:	**Usually the supplied printer**
CON:	**The screen**
AUX:	**The input/output interface (RS232/Centronics)**
Sources	
CON:	**Input from the keyboard**
AUX:	**Input from the RS232/Centronics interface**
NUL:	**This sends 40 nulls (hex 00). We don't know why**
EOF:	**Sends an end of file marker (hex 1A), for comms**

number to the file specification thus:

M:NEWPIP.COM[3]=M:NEWPIP.COM

This will copy the file NEWPIP.COM to user group 3 as you can prove easily enough by quitting PIP, changing to group 3 (type 3M:) and doing a DIR. And now for the grand finale, doing it all at once. Like most of the CP/M utilities PIP will work with the usual set of wildcards (the * to replace sets of characters and the ? to replace single

What are the options?

There are twenty different options that can be added to a PIP file transfer command, most of which are of little use to a PCW owner, but a few that might be are listed below. They must always be in square brackets and there can be more than one parameter inside the brackets. You mustn't have any spaces anywhere except after the initial PIP (if at the command line).

[A]	Only copy files that have been altered
[C]	Confirm that each file should be copied
[E]	Echo to screen
[F]	Remove form feeds
[Gn]	Specify user area for file source or destination
[L]	Change to all lower case letters
[N]	Add line numbers with no leading zeros
[O]	Object file (binary) transfer
[P]	Form feed every 60 lines
[Pn]	Form feed every n lines
[Qstring^Z]	Stop copying after string is found
[Sstring^Z]	Start copying after string is found
[R]	Copy a SYS (system) file
[Tn]	Expand tabs to every n columns
[V]	Verify file transfers
[Z]	Zero parity bit on all characters

Bits and pieces

PIP does support password protection but not as completely as intended under CP/M 3. Unlike the CP/M 2.2 version the [O] option to copy binary files isn't required, both text files and COM files are copied in the same way with no distinction being made. It's worth noting that you don't need to issue command in upper case, they're that way in the text only for added clarity. Finally, the order of commands is always PIP DESTINATION=SOURCE.

characters). Make several versions of PIP called PIP1.COM through PIP5.COM in user group 0 and then invoke PIP as before. Now type:

M:[4]=M:PIP*.COM

If you look in user group 4 when this finishes you'll find that all the versions of PIP (including plain PIP.COM) have been copied in one go. The contents of whole discs can be copied in this way with a single command:

M:=A:*.*

But PIP can do much more than whizz files from one disc to another, or from one user group to another. Let's find out why it has the word 'peripheral' in its name. For the first part of this trick you need an Ascii file (it works best that way), for example you could copy your PROFILE.SUB file from a start of day disc to drive M.

Wrodrats

Right, now that you have a text file on M you can try interchanging it with a peripheral, in this case the screen.

All for one

As has been explained in a few of the previous CP/M articles the utilities are intended to complement each other. PIP combines particularly well with SUBMIT to automate a wide variety of activities. Perhaps the most obvious is arranging to automatically copy a number of files to the M drive from your start of day disc, but there is one really useful task that PIP can do for LocoScript users if it's combined with the power of SUBMIT; and that's to back up your data discs.

The normal way to do it is to copy a complete disc, but that may not be what you really want to do. If you have a disc to which you normally back-up your files, you won't want to lose other material that may be on the disc. With PIP you can copy just the files from the groups you are using and keep any other files on the backup disc intact.

To do this you will want to copy only those files in those groups you work in. The following SUBMIT file will copy all files from groups zero to seven on a LocoScript disc from the A drive to the B drive but can easily be modified to copy them to M and then back to another disc on A. If you don't want all the groups copied just delete the irrelevant lines.

```
PIP
<B:[G0]=A:*.*[G0]
<B:[G1]=A:*.*[G1]
<B:[G2]=A:*.*[G2]
<B:[G3]=A:*.*[G3]
<B:[G4]=A:*.*[G4]
<B:[G5]=A:*.*[G5]
<B:[G6]=A:*.*[G6]
<B:[G7]=A:*.*[G7]
<
```

Just like that

Here are a few sample PIP commands and what they do. They can be used directly with PIP on the command line or interactively from the asterisk prompt.

LST:=CON:
Send everything typed at the keyboard to the printer until ^Z ([ALT]z) is typed.

A:NEW.SUB=CON:
Put everything typed at the keyboard to the file NEW.SUB until an [ALT]Z is typed. If you want line feeds as well as carriage returns type [ALT]J after each [RETURN].

LST:=B:FILENAME.TYP[P45]
Send a file to the printer, issue a formfeed every 45 lines and zero the high bit (useful for printing out pd documentation).

A:NEWFILE=CON:
Send everything typed on the keyboard to the file newfile.

B:=A:MARCH*.*[C]
Copies all the files on A with March as the first five letters to B first confirming that you really want to copy each one.

CON:=ROMANCE.003[USbig^ZQbest^Z]
Find the word 'big', start printing to the screen and stop when the word 'best' is found. There's a bug in PIP, though, that means it will only find upper case words though it will work if the U option is used to convert the text to upper case first.

B:DINOFILE.963=A:DINO1,A:DINO2,A:DINO3
Concatenate the three files on A labelled DINO1 through to DINO3 into a single big backup file on B called DINOFILE.963.

CP/M thinks the screen is called CON: (the keyboard too, but you'll get to that in a moment). Try typing:

CON:=M:PROFILE.SUB

If you have a different text file on M then type the name of that instead. You should now see the file contents scroll down the screen. This facility, combined with the various functions PIP provides, can be very useful; many public domain document files, for example, are in WordStar format, which doesn't type well to the screen because all the letters at the end of words have their high bits set; by adding the parameter [Z] you can knock off the high bits and print a clean file to either the screen, the printer or another file at the same time. The PIP command below will do the deed:

CON:=WORDSTAR.FIL[Z]

Not everyone appreciates that PIP is perfectly capable of quite sophisticated comms work. It works best with Ascii files rather than binary files due to the lack of Xmodem or other verification procedures but this is no real problem when you're only interested in sending material down a cable connecting two computers rather than over a dirty telephone line.

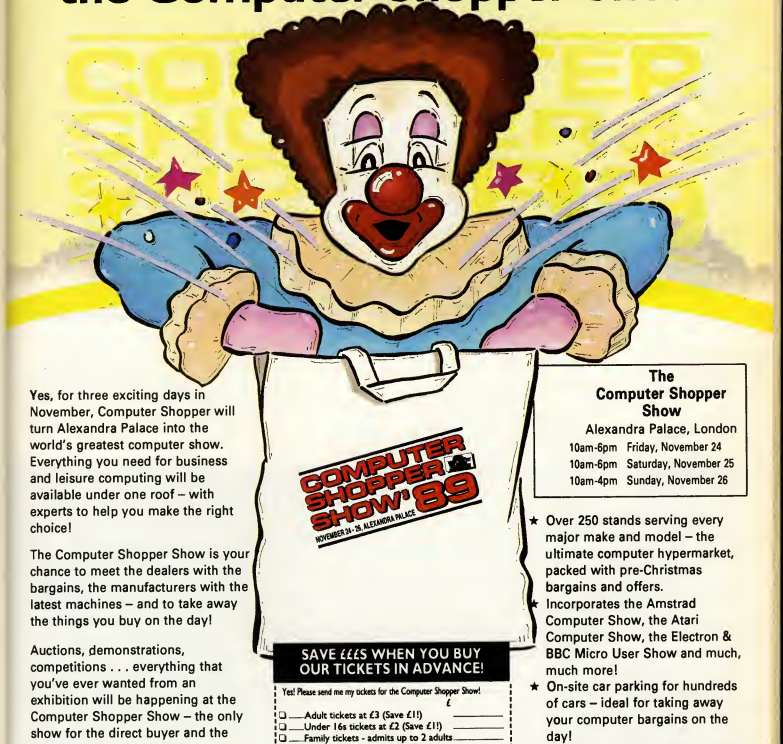
A utility we've not covered yet is required, SETSIO, to set up the interface correctly. If you're connecting two PCWs then life is particularly easy since you can avoid that stage and simply use the defaults on both machines. If one of the machines is a PC or Z88 for example then you must set the protocols of both to match. Assuming both are to be set to XON protocol, 1200 baud, 8 bits, no parity and 1 stop bit (and assuming you know from your manual how to set the other computer and send an EOF character) you would need these commands to receive a file:

SETSIO 9600, P NONE, XON, BITS 8, STOP 1
PIP M:INFILE.FIL=AUX:

Similarly, to send a file you would simply reverse the destination and source on the second line.

As you can see from the variety of suggested uses in this article PIP is a far more versatile program than most users give it credit for. This is one of those programs that it's worth making room on your discs for. ■

Computer shopping is fun at the Computer Shopper Show!



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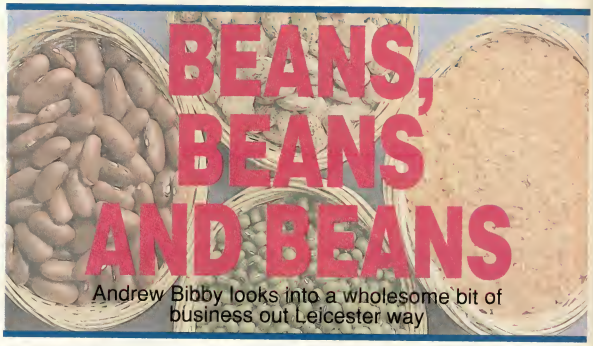


BEANS, BEANS AND BEANS

Andrew Bibby looks into a wholesome bit of business out Leicester way

Just down the road from the large Sainsburys supermarket on the edge of Leicester's city centre is a rather different type of retail outlet. A bright handpainted yellow sign directs motorists to what looks initially like an ordinary small factory unit. Outside, a few cars are parked. Inside, a few mid-week shoppers are trundling trolleys up and down the aisles.

It's what they are putting in their trolleys that points to the difference: packets of dried mango pieces, mayonnaise made with free range eggs, cruelty-free cosmetics, jars full of cashew-nut butter, soya ice cream (it's known as "Ice Dream"), elderflower herb tea, Japanese dried sea-weed.

This is the cash-and-carry warehouse run by the six members of the Leicester Wholefood Co-operative (LWC), who are proving that it's possible to put your principles into practice and still run a successful business.

In the office, Joan Harris, one of the group, is taking time off from other tasks awaiting her – repacking the dried beans, working out next week's stock orders – to explain to me how their venture started. Across the room, another two members of the group have booted up SuperCalc on the company's PCW 8512 and are working out the previous year's profit and loss account: Leicester Wholefood Co-operative's experience also shows that it's possible to run quite complex business affairs on a simple Amstrad PCW.

LWC first opened the doors of their warehouse to the public in April of 1987, explains Joan Harris; the idea was to supply good quality wholefoods – "unrefined food to which nothing has been added or taken away" – at reasonable prices, and to operate the business as a co-operative. The six members of the co-op continue to take the decisions jointly, dividing up the work between them, and all taking turns at the less pleasant tasks like sweeping the floor and bagging up the dried goods. They also take home the same wages.

"We made a loss the first year, but since then we've been trading profitably," says Joan. "This year we'll be turning over about £360,000 of business. It's going very well - we're

Plan–tastic

There is no secret why Leicester Wholefood Co-operative plumped for an Amstrad PCW – it was cheap. "We got the one which did everything we wanted for the smallest amount of money," said one member of the co-op.

They bought it before they began trading, at a time when every penny had to be counted carefully. This was in 1986, when the business plan was being researched and prepared. The 8512 quickly demonstrated its usefulness. "It was invaluable for the business plan," says Joan Harris. "The business plan helped us as we touted the idea around. It's an impressive document: God knows how long it would have taken without a word processor".

But as well as making use of LocoScript (back in the days when this meant LocoScript 1 of course), LWC also invested in a spreadsheet program, choosing SuperCalc. SuperCalc was quickly pressed into use, being used for the financial projections which LWC drew up to accompany their business plan.

These included detailed cash-flow projections, showing an itemised breakdown of the expected sources of income and of expenditure month-by-month for the first few years of trading. Cash-flows are an essential tool in the planning of a new business – and in the successful management of an existing business. Every company, no matter how successful, has to watch its cash-flow carefully, to ensure that the business has sources of cash available to pay its bills whilst it is waiting for income to come in.

Spreadsheet programs help enormously in the preparation of cash-flow forecasts: without them, you need to be equipped at minimum with a calculator, pencil and rubber and a considerable supply of patience. But the real advantage of using a computer to prepare cash-flows is the ability it gives the user to study the effects of minor changes to the assumptions being made about how things will go.

Drawing up a cash-flow depends, in part, on making inspired

Health conscious

Leicester Wholefood Co-operative say that the goods they sell shouldn't be defined as 'health foods'.

Wholefoods (items like grains, nuts, pulses, dried fruit and wholemeal flour) are, they say, naturally nutritious and promote good health – health foods, by contrast, claim to cure ill-health. LWC are sceptical of things like vitamin supplements and herbal remedies, and don't tend to stock them in their warehouse.

But they don't only stock food; on the shelves are non-detergent bio-degradable cleaning materials, the inevitable rolls of recycled toilet paper, and – for anyone anxious about what is being done these days to ordinary tap water – special water filters.

Address and telephone number are as follows: Leicester Wholefood Co-operative Ltd, 3 Freehold St, Dysart Way, Leicester LE1 2LX (0533-512525).

File delimiter

One of the problems businesses often find running PCWs is the file size limit imposed by floppy discs. Inventory lists and accounts data can soon fill a floppy. PCs have the same problem, and the same answer: you need to buy a hard disc. Fortunately there are several available for the PCW and they can be every bit as fast as on any other computer.

delighted." But behind the success lies hard work and long hours. The hard work started long before the business actually began trading, as far back as the Autumn of 1985, when the group began to research their business idea. Their final business plan ("it looks like a book," says Joan) goes into great detail about their proposal, with a lengthy section on their market research findings and complex financial projections for the first three years of the business.

Unlike many people starting in business for the first time, the LWC group were determined to do their homework first. And on the strength of the business plan, they were able to raise almost £40,000 in loans, some of it from specialist co-operative loan funds, some from their bank and some from their own pockets and those of their friends.

Doubtful premise

Not everything was plain sailing, however. "We intended to start trading in October 1986 . I'd given up my previous job in July, but we had problems finding premises. It was really difficult to find anything suitable. So we had to defer the opening for six more months."

Joan breaks off to respond to a question from the other side of the room. "The SuperCalc file name for November's accounts? I don't know. Was it written on that scrappy piece of paper sellotaped to the top of the computer? Oh dear, I might have thrown that away." There is the sound of keys being pressed, and a file directory appears on screen. The relevant file is found, safe and sound.

All six workers at LWC are vegetarians, though it's not a firm rule for future staff, "and anyway, I've seen the occasional turkey sandwich in here," claims Joan. They share a commitment towards promoting what they see as a healthier ways of living – healthier, they say, not just for individuals but also for the future of the planet. They're delighted that the public is becoming more 'green' in its shopping habits. "More people are eating wholefoods,

If you eat a lot of wholefoods you needn't worry about health foods. Even some chain stores stock wholefoods nowadays.

especially organic food grown without fertilisers or chemicals," says Joan. "It's a big area of growth. And sales of environmentally-sound household cleaners, like Ecover washing liquid, have gone through the roof recently".

LWC are conscious that supermarkets, including near neighbours Sainsburys, are jumping on the bandwagon and beginning to sell some of the same range of products. In one sense, the LWC workers are pleased to see their beliefs vindicated. But in business terms, how can a small operation like theirs, with one single trusty PCW, compete with a large supermarket chain, equipped with the latest electronic point-of-sale technology and

Soft machine

If a cow or sheep is considered as a device for turning grass into protein then it has to be said that it isn't a very good one. The same piece of agricultural land can produce four times as much protein directly in the form of cereals or legumes as it can via a cow or sheep. As a bonus the vegetation won't concentrate environmental contaminants as much as livestock.

Co-operative effort: the owners/staff pose for a group picture outside their warehouse.

guestimates'. But suppose these are wrong: what would happen to the business, for example, if sales were 5% less than expected? Using a spreadsheet program, it's very easy to revise automatically the figures – and check the bottom line, to see how the overall cash-flow is affected.

As well as preparing cash-flow forecasts, Leicester Wholefood Co-op also used the SuperCalc program to help them devise predicted profit and loss accounts and balance sheets, and to calculate the effect on their overall profitability of the loans they were obliged to take out.

Whether forecasting

Since they have begun trading, LWC have continued every three months to draw up future cash-flow projections. But they've also found that SuperCalc can be used for a range of more unusual applications. "We do our stock records and the trade price lists on SuperCalc," says Joan Harris. "It's a bit tricky but it works".

Their price lists are well-produced twenty-page booklets, filled with densely printed lists of stock items, weights and prices. The list I was shown begins with Aduki beans (50 kilograms for £29.78) and finishes with yoghurt makers (six for £25.43 plus VAT). Each page, made up of three columns, is a separate SuperCalc file, set up to an established format, printed out and collated.

Joan Harris says that they rejected LocoScript for these lists ("it's so slow to alter anything"), but agrees that another alternative might have been to use a database program. "Ideally, we'd like an all singing, all dancing program which kept the stock records and did invoicing too, which we do by hand at the moment," she says. But she points out that every time new software is acquired, it takes time to work out how to use it.

For the home computer user, exploring the hidden depths of a computer program can be an enjoyable way of spending leisure time: but for a business, time spent by staff in familiarising themselves with new software costs money. Like all business expenses, it has to be justified in terms of future savings.

Not everyone at Leicester Wholefood Co-operative was initially convinced that they needed a computer, though most of the group now use it. The co-op has arranged for training sessions for the staff in basic wordprocessing and spreadsheet use, choosing courses offered by a local ITEC (Information Technology training centres – there are ITECs in most parts of the country) and of the Leicester-based Co-operative Development Agency, a support organisation for workers' co-operatives.

But one practical problem for LWC's workers is simply in elbowing their way on to the PCW – the one solitary machine is almost permanently in use for one reason or another. As they expand, the co-op realise that they will have to reassess their computer system. Joan Harris says that in due course they expect to upgrade, probably to a computer system with the ability to run several terminals. But there are other capital purchases to be made: "the first priority is to get a fork-lift truck to help us, before we end up with bad backs," she says.

In the meantime LWC have begun planning to use the PCW still further. They have discussed with their accountant ways of computerising their book-keeping and accounts, and have recently plumped for Sagesoft's Accounts software (see review in 8000 Plus, issue 34). Sagesoft is an elaborate business accounting package and may be too sophisticated for many small businesses: but LWC chose it partly with the thought in mind that, when they do upgrade, they will be able to continue to use the same software on their new machines.

Group action

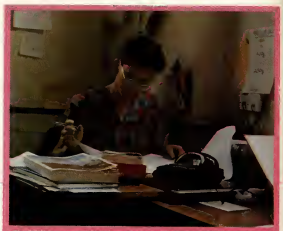
Leicester Wholefood Co-operative is one of well over 1500 workers' co-operatives in Britain. The idea is both an old one (there were manufacturing co-ops, sometimes quite large businesses, in the nineteenth century) and a new one – because the vast majority of today's co-ops have been set up in the last few years.

Workers' co-operatives are defined as businesses which are jointly owned and controlled by all the workforce. Normally co-operatives will be incorporated companies with limited liability (unlike, for example, partnerships which do not have limited liability). Co-op staff are employees of their business, rather than self-employed.

Most small co-ops also operate by sharing the management functions of the business jointly. LWC takes its business decisions at regular weekly meetings, held on Monday morning before the first customers arrive.

Co-op members, like those at LWC, don't deny that there are problems sometimes in working without a single 'boss'; but they say that the rewards and job satisfaction amply repay the extra effort that's needed.

Many cities now have specialist 'co-operative development agencies', able to offer business advice and sometimes financial assistance to co-operatives. Otherwise, more information and advice about workers' co-operatives can be obtained from the Industrial Common Ownership Movement, , Vassilli House, 20 Central Rd, Leeds LS1 6DE (0532-461737).



The PCW is a powerful business computer in its own right, as many small businesses have begun to discover. For most of the 1970s CP/M computers were the business standard.

computerised stock control? Joan Harris points out that size isn't everything: "We've got the specialist knowledge," she says. "You can't discuss the advantages or disadvantages of individual products with checkout assistants".

Reliable counts

The phone rings in the office: it's one of LWC's trade customers, a retailer in a small town near Leicester who likes to carry a range of their stock. Joan reaches for a file of order forms, all carefully LocoScripted, and begins to fill it in. "... no, we haven't got Australian, but we've got New Zealand, will that do?" Another order is made out – another sale made. (Meanwhile, over by the PCW, there are signs of cheerfulness breaking out: last year's accounts are taking shape, and looking better than expected).

LWC's stock now comprises some 1500 items, from everywhere in the world except South Africa. They're purchased direct from the importers or from one of the large London-based wholesale companies, and fetched back to Leicester in the co-op's big Mercedes van once a week. The Mercedes, like the PCW, is worked hard – and, like the Amstrad, has demonstrated its reliability.

The co-op sell their goods throughout the Midlands, driving orders to Nottingham, Stafford and across to Coventry and the West Midlands. "You should mention that we also work together with other nearby co-operatives, buying stock jointly to share the extra savings, and exchanging information," I'm told. "Another example of co-operation in practice!"

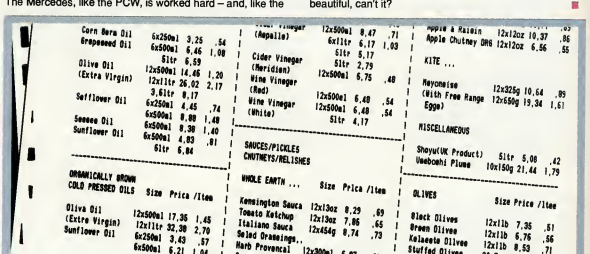
Despite the business's evident success, wages are still lower than the workers would like. Joan Harris, like several of her colleagues, gave up a well-paid managerial job in industry to join the co-op. But although the financial rewards are lower, she has no regrets. As the co-op put it in the original business plan, "... in order to fulfil our desire to have control over our own working conditions, we need to break away from the limitations of the conventional, hierarchical employment structure. We desire to work in a situation where each individual's contribution is recognised and valued."

J. Sainsbury up the road might not recognise the creed, but it obviously works. Sainsburys wouldn't recognise the computer being used, either – but then, small can be beautiful, can't it?

Program spread

SuperCalc 2 is one of the best-selling spreadsheet programs on the Amstrad PCW range – 8000 Plus has reviewed its function at length in the past (see issues 34 and 35).

Good as SuperCalc is in many ways, though, it can't turn your data into pretty graphs or graphics. If that's important to you, you might prefer to consider other software options, such as Cracker Turbo, or (the cheapest option) the spreadsheet part of Mini Office Professional.



Corn Germ Oil	6x250ml	3.25	.54
Grapeseed Oil	6x500ml	5.46	1.00
	5ltr	6.59	
Olive Oil	12x500ml	14.45	1.20
(Extra Virgin)	12x1ltr	26.02	2.17
	3.6ltr	9.17	
Safflower Oil	6x250ml	4.45	.74
	6x500ml	8.88	1.48
Sesame Oil	6x500ml	8.38	1.40
Sunflower Oil	6x500ml	4.83	.81
	6ltr	6.84	

ORGANICALLY BROWN COLD PRESSED OILS	Size	Price	/Item
Olive Oil	12x500ml	17.36	1.45
(Extra Virgin)	12x1ltr	32.38	2.70
Sunflower Oil	6x250ml	3.43	.57
	6x500ml	6.21	1.04
	5ltr	7.29	

REFINED OILS			
Soya Oil	12x1ltr	7.70	.65
	6ltr	3.10	
Sunflower Oil	12x1ltr	7.70	.64
	6ltr	4.10	

(Aepalle)	12x500ml	0.47	.71
	6x1ltr	6.17	1.03
Cider Vinegar	6ltr	5.17	
(Meridien)	5ltr	2.79	
Wine Vinegar	12x500ml	5.75	.48
(Red)			
Wine Vinegar	12x500ml	6.48	.54
(White)	12x500ml	6.48	.54
	5ltr	4.17	

SAUCES/PICKLES CHUTNEYS/RELISHES			
WHOLE EARTH ...	Size	Price	/Item
Kensington Sauce	12x13oz	8.25	.69
Tomato Ketchup	12x19oz	7.86	.65
Italiano Sauce	12x454g	8.74	.73
Salad Dressings,,			
Herb Provencal	12x300ml	6.97	.58
Creamy Nut	12x300ml	6.97	.58
Oriental	12x300ml	7.67	.64
Corn Relish	12x270g	7.86	.65
Cucumber Relish	12x270g	7.86	.65
Tomato Relish	12x270g	7.86	.65
Picelilil	12x270g	7.41	.62

Apple & Raisin	12x12oz	10.37	.86
Apple Chutney DR6	12x12oz	6.56	.55
KITE ...			
Mayonnaise	12x325g	10.64	.89
(With Free Range	12x650g	19.34	1.61
Eggs)			

MISCELLANEOUS			
Shoyu(UK Product)	5ltr	5.06	.42
Umeboshi Plums	10x150g	21.44	1.79

OLIVES	Size	Price	/Item
Black Olives	12x1lb	7.35	.61
Green Olives	12x1lb	6.76	.56
Kalamata Olives	12x1lb	8.53	.71
Stuffed Olives	20x7oz	5.08	.25
Pitted Olives	20x7oz	5.00	.25
Vine Leaves	30x8oz	8.82	.29

SEA VEGETABLES			
Arame	12x70g	15.10	1.26
Wakame	10x50g	16.23	1.62
Nori	12x25g	19.27	1.61
Dulse	6x20g	7.80	

The trade stock and price list of the wholefood co operative runs to 20 pages, any or all of which can change quickly. To keep this information up to date the co-operative use SuperCalc 2 as a database. Each page is held as a separate file which can be quickly called up, altered as required and printed out. Although this works well there are a lot of things they can't do with SuperCalc and haven't been able to implement on the PCW because of the staff training involved. In practice it's rarely the PCW which is found wanting.

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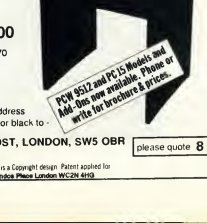

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BETTER LATE THAN NEVER

Dave Axford looks at a product designed to improve Stop Press pages

EARLY NEWS

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USERS of the Stop Press desktop publishing program know how easy it is to create graphics, large text and presentable layouts in next to no time. Where the program is not up to par is in the legibility of the body text. Most publications rely mainly on words rather than pictures to communicate with the reader, which leaves users of Stop Press wanting.

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THIS publication describes and demonstrates a publishing system based on the use of high-definition font designs and professional layout techniques. A two-column format was chosen for demonstration purposes because of its relative ease of use and its suitability for a wide range of publishing applications.

These two text samples are reproduced at the same size. The top one is in standard Stop Press body text while the bottom sample uses a Late Extra body text.The latter is more readable, though in order to achieve this in graphics mode, it does take up much more space – hence the need to reduce it with a photocopier for best results.

Late extra pages

As a bonus there is mention of a 'swap' facility not documented in the Stop Press manual which enables you to use five pages in memory at the same time. This is an extremely useful technique which can save a lot of time, for example, calling up the font called DROPCAPS to copy a character.

This copying can be done by using another page in memory to call up the font, saving the required character into its own cutout file, returning to the original page and loading the cutout file with the character previously saved. Simply insert it where it needs to go.

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Users of the Stop Press desktop publishing program know how easy it is to create graphics, large text and presentable layouts. Where the program is not up to par is in the legibility of the body text. Most publications rely on words rather than pictures to communicate with the reader, which leaves users of Stop Press wanting.

Up till now if it was important to have graphics with clear text, then you had to use LocoScript or another word processor program to print out the text first, leaving gaps for your illustrations. Next you had to feed your page back into the printer again to print the illustrations using Stop Press. Doing this was fraught with problems, as you have to be accurate in aligning your page in the printer each time, once for the text and again for the graphics.

John Evans of Exemplar Design (an experienced publisher and creator of Stubble 1 and 2 for the Desktop Publisher), has spent 4 months designing Late Extra. This is a collection of 11 fonts, covering the range of type styles and sizes needed to create a balanced page structure and a 13 page publication on disc which describes how to create your own professional looking publications. Using Late Extra together with Stop Press it is now possible for you to create good looking pages with easy to read body text.

Late Extra comes on either a CF2 or CF2DD disc format depending on your PCW. For this you get new fonts, templates, and a wealth of information to improve the look of your publications. The fonts have been created to make an integrated page structure, each one complementing the other – you won't find any fancy or futuristic fonts.

Take it away

Stop Press was used to print the first nine pages of the Late Extra tutorial which provides enough information to allow you to continue using the supplied template pages. This was done by inserting the supplied LocoScript text files onto the remaining four pages. Of course a blank formatted disc is required to put these remaining pages on. This process would enable you to experience producing your own pages and gives a better understanding of the details involved.

There is an 'instant eraser' which demonstrates in a practical way the ghosting utility of Stop Press; a much clearer example to understand than the description in the Stop Press manual.

To create pages for your own newsletter or whatever, firstly plan where you're going to put your headings and illustrations on the printed grid sheet; from this you will be able to determine the exact number of text lines for the body text. Secondly by using LocoScript, (template supplied) to create your text and using the auto-flow facility in Stop Press, text is entered onto the page. To make the body text look it's best it has to be unjustified, which means that you will have to use hyphens on the end of some lines so as to make them more balanced.

Allow yourself plenty of time. This is definitely not a job to be rushed – not if you want your work to be of a high-quality. For the best possible result reduce the A4 printed pages to A5 using a photocopier. You will be amazed at the result!

Late Extra sets out to create a legible body text for use within Stop Press and to demonstrate a versatile working layout. Now, the appearance of the body text, from being fuzzy and cramped, has been transformed into a clear and attractive style. There is now no excuse for not presenting your publications in a much more attractive and readable way, thanks to both Stop Press and Late Extra. ■

PLUSES	MINUSES
▲ Easy to use	▼ Time consuming
▲ Good range of 11 complementary fonts	▼ Text needs reducing for best results
▲ Can adapt template for own use	

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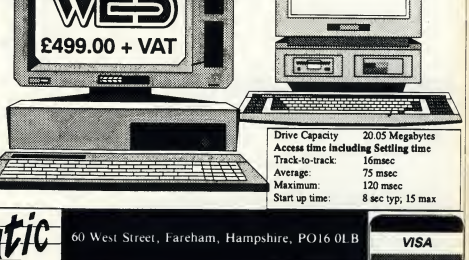

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INDEX

The next few pages consist of a pull-out, alphabetical index of all the features, reviews, listings and tutorials – not to mention tipoffs – that have appeared in 8000 Plus over the last twelve months – from issue 24 to issue 36 to be precise. No longer will you have to flick your way through the latest issues of the magazine on the off-chance of finding that hot LocoFile tip you had your eye on; now you can turn straight away to the pages that matter. By the side of each article, we've included first of all the number of the issue that it's in, then the date of that issue and finally the page number itself.

As in the past, Postscript letters, competitions and news stories aren't included in the index. Issues 1 – 11 were indexed in issue 12 (September 87), 12 to 23 in issue 24 (September 88). Back issues of 8000 Plus are available from The Old Barn in Somerton on 0458 74011.

FEATURES / GENERAL INTEREST

Accounts packages: #34, July 89, p10
Adventure games: #31, April 89, p45
Amstrad: #32, May 89, p34
Artificial Intelligence: #33, June 89, p49
  Expert systems: #34, July 89, p49
Banking: #25, Oct 88, p30
Birthday (3rd): #36, Sep 89, p34
Business profiles
  Capital Communications: #35, Aug 89, p40
  Chalfont Line: #33, June 89, p32
  Robert Cooney, snail-farmer: #36, Sep 89, p41
Comms
  Modems: #35, Aug 89, p45
  Prestel: #27, Dec 88, p34
Copyediting: #35, Aug 89, p57
Copyright laws: #27, Dec 88, p54
Corruption (discs): #26, Nov 88, p61
Covering letters (with manuscripts): #24, Sep 88, p49
CP/M (history of): #31, April 89, p34
Data Protection Act: #35, Aug 89, p53
Disc drive (adding a): #28, Jan 89, p10
Disc shortage: #33, June 89, p59
DIY Publishing: #31, April 89, p10
  Marketing: #32, May 89, p54
Educational software: #29, Feb 89, p10
Error messages: #35, Aug 89, p17
Fizz Buzz: #34, July 89, p59
Freelance writing: #26, Nov 88, p51
Grammar and usage: #36, Sep 89, p57
Health risks: #26, Nov 88, p53
IQ (Test your PCW): #27, Dec 88, p49
Locomotive Software (interview): #36, Sep 89, p10
PCW
  and the typewriter: #24, Sep 88, p47
  Games round-up: #27, Dec 88, p10
  in industry: #34, July 89, p45
  second-hand: #25, Oct 88, p34
  The 9512 File: #24, Sep 88, p10
  training: #30, March 89, p34
Peter's Progress: #33, June 89, p18
Portable Computers: #28, Jan 89, p34
Previews
  LocoFile: #26, Nov 88, p10
  Isenstein's Odessa: #26, Nov 88, p48
Printers: #33, June 89, p10
Programming
  Benchmarks: #34, July 89, p67
Public Domain
  Compilation discs: #33, June 89, p57
  Superzap disc editor: #35, Aug 89, p33
Public Lending Right: #28, Jan 89, p57
Ribbons: #30, March 89, p45
Running a Club: #26, Nov 88, p34
Specialist Software
  Marketing it: #28, Jan 89, p49
  Writing it: #27, Dec 88, p57
Spare parts: #25, Oct 88, p47
Spreadsheets
  Head to head: #25, Oct 88, p10
  monitoring stocks and shares with SuperCalc: #25, Oct 88, p39
Statistics: #32, May 89, p59
Stylechecking programs: #30, March 89, p59
Tomorrow's World: #28, Jan 89, p28
Typesetting (from disc): #29, Feb 89, p34
User groups: #32, May 89, p10
Vertical Software: #35, Aug 89, p10
Word Processing
  LocoScript 2 versus LocoScript 1: #33, June 89, p22
  LocoScript 2 versus Mini Office: #27, Dec 88, p41
  LocoSpell: #26, Nov 88, p43
Workstation (building your own): #33, June 89, p54
Writing
  a bestseller: #34, July 89, p18
  magazine: #36, Sep 89, p17
  software: #30, March 89, p12
  a thesis: #31, April 89, p29
  travel: #33, June 89, p34
Z88
  Comms: #29, Feb 89, p50
  Introduction: #26, Nov 88, p57
  Transferring BASIC programs: #28, Jan 89, p53
  Transferring files to the PCW: #27, Dec 88, p60

REVIEWS

ACCOUNTS AND SHARES

Check Account II: #36, Sep 89, p29
Easi-Accounts System: #36, Sep 89, p54
Investor: #34, July 89, p20
Market Merlin: #25, Oct 89, p37
Micro Simplex #34, July 89, p15
Money Manager PCW: #36, Sep 89, p54
Sage Popular Accounts: #34, July 89, p15
Simple Accounts II: #34, July 89, p12
Stock Market: #25, Oct 88, p36

BOOKS

All in One Business Computing: Amstrad PCW and Mini Office Professional: #24, Sep 88, p22
Amstrad PCW 8256 and 8512 - Word Processing with LocoScript: #27, Dec 88, p39
Communications and Networks: #34, July 89, p57
Computer Hobbyists' Handbook: #34, July 89, p57

INDEX

Computers – Who Needs Them?: #27, Dec 88, p39
Desktop Publishing on a Shoestring: #28, Jan 89, p45
Easily into LocoScript for the Amstrad PCW 8256/8512: #36, Sep 89, p39
Hackers' Handbook III: #25, Oct 88, p41
Hands on LocoScript: #26, Nov 88, p45
How to Solve it in LISP: #32, May 89, p57
Learning to Program in C: #31, 89, p57
LocoScript: #25, Oct 88, p41
LocoScript/LocoMail/LocoSpell: #29, Feb 89, p57
Looking into LocoScript 2: #26, Nov 88, p45
PCW Machine Code: #29, Feb 89, p57
Protext – a PCW User's Guide: #36, Sep 89, p39
The CP/M Software Library: #32, May 89, p57
The SuperCalc Super Book: #28, Jan 89, p45
The Technical Documentation Handbook: #31, April 89, p57

DATABASES

Cambase Series II: #24, Sep 88, p28
Chibase 3.0: #28, Jan 89, p16
Keybase: #31, April 89, p38
Script2Base: #34, July 89, p17
Spartan Averages: #24, Sep 88, p54
Starbase: #31, April 89, p38
Text2Base: #34, July 89, p17

EDUCATIONAL SOFTWARE

Animal, Vegetable and Mineral: #29, Feb 89, p15
Better Maths: #29, Feb 89, p11
Better Spelling: #29, Feb 89, p10
Biology 1: #29, Feb 89, p12
CARA: #29, Feb 89, p11
CASA: #29, Feb 89, p12
Chemistry 1: #29, Feb 89, p12
Crash Course in Typing: #29, Feb 89, p12
Easy Games: #27, Dec 88, p28
Giantkiller: #29, Feb 89, p12
Language Tutors: #29, Feb 89, p15
Maths Mania: #29, Feb 89, p11
Physics 1: #29, Feb 89, p12
QUMA: #29, Feb 89, p15
Super Maths: #29, Feb 89, p12
Two Fingers to Touch Typing Conversion Course: #29, Feb 89, p12
Ultimate Quiz: #27, Dec 88,
Viewbook Author: #29, Feb 89, p12
Viewbooks: #29, Feb 89, p12
Worldwise: #29, Feb 89, p15
Write Right!: #25, Oct 88, p16; #29, Feb 89, p11

GAMES

Catch 23: #25, Oct 88, p42
Classic Games: #28, Jan 89, p42
Clock Chess '89: #29, Feb 89, p42
Corruption: #28, Jan 89, p41
Double T Patience: #26, Nov 88, p40
Fish: #30, March 89, p57
Ingrid's Back: #29, Feb 89, p41
Lancelot: #27, Dec 89, p52
Mindfighter: #24, Sep 88, p53
Return to Doom: #26, Nov 88, p41
The Armageddon Man: #25, Oct 88, p43
Tomahawk: #28, Jan 89, p42
World of Soccer: #29, Feb 89, p42

GRAPHICS AND DTP

All You Ever Wanted To Know About Graphics, The Universe and Everything on PCW 8256/8512 But Were Afraid To Ask – Version 2: #28, Jan 89, p16
CD Draw: #27, Nov 88, p28
Clips and Fonts Desktop Magic Clip Art: #29, Feb 89, p33
Designer Stubble: #27, Nov 88, p28
Get Set Typeset: #29, Feb 89, p33
MicroDesign II: #36, Sep 89, p45
PCW Draw: #34, July 89, p41

HARDWARE

24-Pin Printer Driver: #31, April 89, p41
ASF9512 Sheet Feeder: #36, Sep 89, p51
Input Output Module: #33, June 89, p17
Modems
Amstrad SM2400: #31, April 89, p17: #35, Aug 89, p47
Hi-Tec EC2400: #35, Aug 89, p47
Pace Linnet: #35, Aug 89, p47
Real Time Clock Module: #32, May 89, p17
Speech Synthesizer: #30, March 89, p30

MUSICAL

EMR Pro-Performer Software: #35, Aug 89, p26
DHCP 12-Track Sequencer Software: #35, Aug 89, p26

PROGRAMMING

Devpac 80 Mk II: #26, Nov 88, p32
LOGO Primitives: A Users' Guide: #27, Dec 88, p16

SPREADSHEETS

First Calc: #25, Oct 88, p11; #33, June 89, p46
Cracker Turbo: #25, Oct 88, p11
Mini Office Professional: #25, Oct 88, p14; #33, June 89, p47
Public Domain: #33, June 89, p47
SuperCalc 2: #25, Oct 88, p12
The Cracker: #33, June 89, p46

VERTICAL SOFTWARE

Fee Manager: #35, Aug 89, p10
Inn Control Master: #35, Aug 89, p11
McGregor Building Estimator: #35, Aug 89, p11
Newsagents' Software: #35, Aug 89, p12
Sum-It Farming Systems: #35, Aug 89, p12

UTILITIES

Ansible Index Plus: #35, Aug 89, p29
Averages: #24, Sep 88, p54
Datadiary: #33, June 89, p38
Discedit: #29, Feb 89, p16
E-Type: #28, Jan 89, p27
Flipper: #25, Oct 88, p23
Flipper (Version 2): #32, May 89, p38
Forecaster: #24, Sep 88, p30
Forms Box Compendium: #30, March 89, p17
Gilligan's Guide: #31, April 88, p46
I Ching: #24, Sep 88, p30
InfoFile: #35, Aug 89, p29
Letta-Head Plus: #27, Dec 88, p16
PCW Toolkit: #29, Feb 89, p16
Personal Computer Astrology: #24, Sep 88, p30
Pools Predictor: #29, Feb 89, p45
Protext Mailmerge Tutorial: #33, June 89, p38
PS Headings: #24, Sep 88, p34
StarTrack: #32, May 89, p38
Superzap: #36, Sep 89, p33
TempDisc 8.2: #30, March 89, p17
Texatrix: #25, Oct 88, p16
Three Inch Thesaurus: #32, May 89, 38
Verbiage: #34, July 89, p17

LISTINGS

Battleships: #32, May 89, p61
Catalogue: #31, April 89, p63
Check II – The Sequel: #26, Nov 88, p64
Coder/Decoder: #35, Aug 89, p59
Double Width Text: #25, Oct 88, p58
Drawing Package: #25, Oct 88, p56
Ethernet: #24, Sep 88, p56
Excount: #34, July 89, p63
File Compare: #29, Feb 89, p65
Find It: #36, Sep 89, p59
Gaussian Equation Solver: #35,

Aug 89, p63
Graphics Generator: #27, Dec 89, p63
Key Tester: #28, Jan 89, p62
Loan Calculator: #31, May 89, p63
Machine Code in Basic: #24, Sep 88, p58
Mandlebrot Plot: #31, April 89, p61
Memtype: #26, Nov 88, p66
Pacman: #26, Nov 88, p63
Pacman Upgrades: #30, March 89, p66
Personalised Programs: #25, Oct 88, p60
Plot, Draw and Circle Routine: #33, June 89, p61
Pools Predictor: #29, Feb 89, p66
Racer: #30, March 89, p61
Screen Save: #28, Jan 89, p61
ShareCalc: #33, June 89, p63
Slider: #30, March 89, p65
Solitaire: #27, Dec 88, p65
Spirographix: #29, Feb 89, p61
Status Line Plus: #28, Jan 89, p65
Surfaces: #34, July 89, p61
Yibble: #36, Sep 89, p63

TUTORIALS

COMMS
Cutting down on the phone bills: #33, June 89, p20
Historical perspective: #29, Feb 89, p27
Modems: #30, March 89, p27
Software: #31, April 89, p26

CP/M
COM files: #33, June 89, p29
DIR, TYPE, REN, USER, ERA: #32, May 89, p29
SET: #35, Aug 89, p20
SETKEYS: #36, Sep 89, p20
SUBMIT: #34, July 89, p29

DTP
Boxes and words: #33, June 89, p26
Illustrations: #34, July 89, p26
Page design: #32, May 89, p18

LOCOFILE
and LocoMail: #34, July 89, p37
Introduction: #30, March 89, p41
Producing reports: #32, May 89, p49
Setting up the database: #31, April 89, p49

LOCOMAIL
Arithmetic: #24, Sep 88, p25; #35, Aug 89, p32
Home accounts: #26, Nov 88, p15
Loops: #25, Oct 88, p53
Two-column printing: #27, Dec 88, p33

MACHINE CODE
and BASIC: #32, May 89, p23
Introduction: #27, Dec 88, p23
Loops and decisions: #30, March 89, p23
Macro Assembler: #29, Feb 89, p23
The stack: #31, April 89, p23
Type-in listing: #28, Jan 89, p23

MINI OFFICE PROFESSIONAL
10 most important facts: #29, Feb 89, p30
Comms: #25, Oct 88, p20
Spreadsheet: #26, Nov 88, p30; #27, Dec 88, p30
Spreadsheet and graphics: #28, Jan 89, p30
Word processor: #24, Sep 88, p16

PC AND PCW
Common features: #31, April 89, p54
Similarities and differences: #29, Feb 89, p53
Transferring files: #30, March 89, p53

PROGRAMMING
DIY graphics: #24, Sep 88, p36
Benchmarks: #34, July 89, p67
Fundamentals: #34, July 89, p53
GSX
Introduction: #25, Oct 88, p49
Useful applications: #26, Nov 88, p23
JETSAM
Finishing touches: #24, Sep 88, p50
Planning: #35, Aug 89, p49
Subroutines: #36, Sep 89, p48

SPREADSHEETS
Cracker and charts: #24, Sep 88, p39
SuperCalc and book-keeping: #34, July 89, p22; #35, Aug 89, p35

WORD PROCESSORS
LOCOSCRIPT
Headers in LocoScript 1 and 2: #36, Sep 89, p26
PROTEXT
EXEC files: #30, March 89, p49
Freeform database: #31, April 89, p33

TIPOFFS
8000 Plus Software Collection: #31, April 89, p69; #35, Aug 89, p70
9512 tips: #31, April 89, p72
Backing up discs: #35, Aug 89, p70
BASIC
and LocoFile: #34, July 89, p70
changing user groups: #36, Sep 89, p67
CHR$ commands: #33, June 89, p73
'Files inconsistent': #28, Jan 89, p72; #35, Aug 89, p66
Hash and pound signs: #29, Feb 89, p69
HEX numbers: #31, April 89, p72
INKEY$: #26, Nov 88, p71
Lightning BASIC: #35, Aug 89, p66
Loops: #33, June 89, p69
NEW: #35, Aug 89, p73
Numeric data: #25, Oct 88, p64
Numeric lock: #24, Sep 88, p63
Paper check: #32, May 89, p70
POKES: #32, May 89, p72
Printing: #31, April 89, p71
Protecting listings: #31, April 89, p71/72
SEENEXT: #29, Feb 89, p72
Space checker: #34, July 89, p72
Switching printers: #31, April 89, p68
VAL: #31, April 89, p68
Borders: #34, July 89, p73
Brainstorm: #30, March 89, p69; #34, July 89, p69
Bridge Player 2000: #32, May 89, p68
Calculating time values: #25, Oct 88, p65; #26, Nov 88, p69
Coloured printout: #32, May 89, p68; #33, June 89, p70
CP/M
copying systems files: #32, May 89, p69
error messages: #31, April 71; #32, May 89, p70; #35, Aug 89, p73
PIP: #25, Oct 89, p64; #29, Feb 89, p72
printout of disc index: #27, Dec 88, p70
PROFILE.SUB: #36, Sep 89, p69
SET: #36, Sep 89, p70
SETKEYS: #24, Sep 88, p64; #27, Dec 88, p72
SID: #24, Sep 88, p65; #30, March 89, p68
SUBMIT.COM: #30, March 89, p72
Cyrus Chess: #32, May 89, p69
Datestamping files: #31, April 89, p69
dBase: #29, Feb 89, p68; #30, March 89, p72
DIY cables: #33, June 89, p72
DR Draw: #27, Dec 88, p69
Drive heads: #35, Aug 89, p68
Epson HI-80 plotter: #34, July 89, p68
Epson LQ300: #36, Sep 89, p73
Fast printing: #30, March 89, p72
General tips: #29, Feb 89, p72
Guild of Theives: #29, Feb 89, p70
Keyboard overlay: #29, Feb 89, p69
Keyboard repairs: #28, Jan 89, p68
Key repeat rate: #35, Aug 89, p66
LC 2410: #36, Sep 89, p73
Light Pen: #24, Sep 88, p65
LocoFile

INDEX

and BASIC: #34, July 89 ,p60/68
card titles: #32, May 89, p70
indexes and keys: #33, June 89, p70
into LocoMail: #30, March 89, p69; #31, April 89, p70
merging 2 databases: #33, June 89, p70
reference sheets: #35, Aug 89, p69
to LocoScript: #36, Sep 89, p70
LocoFont: #26, Nov 89, p72
LocoMail
bold headings: #25, Oct 88, p64
calculator: #30, March 89, 70; #35, Aug 89, p68
footnotes: #27, Dec 88, p70
inserting comments invisible in final printout: #29, Feb 89, p69
monitoring phone bill: #33, June 89, p66
numbering paragraphs and clauses: #36, Sep 89, p67
price lists: #26, Nov 88, p71
sentinel records: #29, Feb 89, p70
Sunday Times Weekly Entrepreneur Competition: #28, Jan 89, p72
LocoScript
A5 pages: #31, April 89, p68; #36, Sep 89, p67
address labels: #26, Nov 88, p72; #31, April 89, p70
batch printing: #32, May 89, p68; #33, June 89, p66
chemical equations: #33, June 89, p73
chronological index: #24, Sep 88, p65
continuous labels: #28, Jan 89, p70
copying discs: #36, Sep 89, p70
diary: #26, Nov 88, p72
document index: #25, Oct 88, p65
drawing boxes: #26, Nov 89, p69; #33, June 89, p69
empty file size: #35, Aug 89, p69
footnotes: #24, Sep 88, p63
foreign accents and characters: #26, Nov 88, p72; #29, Feb 89, p69
group names: #29, Feb 89, p70; #35, Aug 89, p73
hard spaces: #36, Sep 89, p73
keystroke chart: #34, July 89, p73
menu chart: #32, May 89, p73
more memory: #25, Oct 89, p65
musical manuscript paper: #32, May 89, p72
narrow labels: #36, Sep 89, p69
pre-printed leaflets: #28, Jan 89, p72
printing and editing: #26, Nov 88, p72; #28, Jan 89, p70
scrolling: #24, Sep 88, p65
SETTINGS.STD: #29, Feb 89, p68
speedy menus: #28, Jan 89, p68
splitting long documents: #26, Nov 88, p72
squeezing files: #28, Jan 89, p68
storing groups of letters in a single file: #33, June 89, p73
storing phrases: #27, Dec 88, p69
word occurrence counter: #34, July 89, p69
Long dash: #34, July 89, p73; #35, Aug 89, p73
LQ 3500: #35, Aug 89, p70
Macintosh to PCW: #33, June 89, p70
Mandlebrot: #36, Sep 89, p69
MASS: #24, Sep 88, p64
Masterfile: #30, March 89, p72; #31, April 89, p69
Memory: #35, Aug 89, p70; #36, Sep 89, p73
Memory jogger: #30, March 89, p70
Micro Simplex: #31, April 89, p72
Mini Office Professional
comms from M: #32, May 89, p70; #34, July 89, p72
database: #31, April 89, p69; #33, June 89, p70
record numbers: #28, Jan 89, p68
and LocoMail: #25, Oct 88, p63
footnotes: #24, Sep 89, p63
function keys: #35, Aug 89, p73
graphs and charts: #24, Sep 88, p64
inserting text into LocoScript: #26, Nov 89, p72
loading from B: #28, Jan 89, p69
printing labels: #31, April 89, p69
in reverse: #24, Sep 88, 64
running any program: #25, Oct 89, p64
search and replace: #31, April 89, p68
spreadsheet to word processor: #27, Dec 88, p69
More legible print: #26, Nov 89, p71
Multiplan: #26, Nov 88, p71
NEC P6: #33, June 89, p70
NWSP: #35, Aug 89, p70
Panasonic KX P1124: #34, July 89, p70
Paper sizes: #35, Aug 89, p73
PCW to BBC: #31, April 89, p70
PCW to CPC: #35, Aug 89, p66
PCW greetings cards: #27, Dec 88, p72
PCW to PC: #33, June 88, p70
PCW to typewriter: #32, May 89, p68; #34, July 89, p72
Pipedream: #28, Jan 89, p68
Plan It: #28, Jan 89, p72
Plonker box: #24, Sep 88, p65
Post coder: #35, Aug 89, p68
Printer
buffer: #36, Sep 89, p70
stand: #35, Aug 89, p68
Printing on all the paper: #25, Oct 88, p65
Prism modem 2000: #36, Sep 89, p70
Protext
ASCII files: #33, June 89, p72
blocks: #29, Feb 89, p72
boldening and italicising: #28, Jan 89, p70
command line: #30, March 89, p68
footnotes: #24, Sep 88, p63
group content printout: #33, June 89, p73
headings: #32, May 89, p69; #34, July 89, p68
inserting data in a document: #28, Jan 89, p70
into LocoScript: #29, Feb 89, p72
printing labels: #30, March 89, p70
using LocoScript's special characters: #36, Sep 89, p70
QSL cards: #27, Dec 88, p70
Radio Frequency Interference: #35, Aug 89, p70
Removing labels: #25, Oct 88, p65
Reversing the screen: #24, Sep 88, p64
Second drive: #34, July 89, p72; #35, Aug 89, p70
Screen replacement: #32, May 89, p70
Small print: #25, Oct 88, p63; #28, Jan 89, p70
Software piracy: #31, April 89, p72
Spike protector: #34, July 89, p69
Starglider: #28, Jan 89, p72
Stop Press: #27, Dec 88, p70; #29, Feb 89, p68; #31, April 89, p69; #35, Aug 89, p69
SuperCalc
alphabetical lists: #25, Oct 88, p64
more memory: #29, Feb 89, p69; #31, April 89, p71
Tetris: #26, Nov 88, p70; #30, March 89, p68
The Desktop Publisher: #29, Feb 89, p72; #31, April 89, p69
The Pawn: #29, Feb 89, p70
Timatic WEB: #32, May 89, p69
Upper case only files: #28, Jan 89, p70
Z88: #33, June 89, p72; #34, July 89, p68

WALLCHARTS

Basic: #26, Nov 89, p45
LocoMail: #27, Dec 89, p46
Mini Office Professional
word processor and database: #28, Jan 89, p46
spreadsheet and graphics: #29, Feb 89, p46

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ASKING FOR IT

Nearing the end of the series on programming considerations

Geoffrey Childs considers input output requirements

Saying that a professional program succeeds on the quality of the input programming is an exaggeration, but it can fail because this aspect is poor. Input is usually the most tedious part of programming, but if it isn't properly managed, users will start to swear, foam at the mouth and, much more serious, ask for their money back.

Let's look at three well known PCW programs and how they appear to the new user. WordStar, a program loved by many, gives the impression that the writers didn't know how to clear the screen and held a competition to find the most awkward keypresses possible. Even so, the information is all there, and with a good manual, it isn't impossible to use.

LocoScript gives plenty of information, shows careful thought has been given to screen design, and provides short cuts for experienced users. Above all, you don't usually notice the screen. This can't be said about Mini Office. There the screen is beautifully designed but with little information, double size, four tone printing and choice from a cursor key. Lovely – or just decorative and patronising?

You may have gathered that of the three I rate the Locoscript input method highest. You may disagree with that. Good, you're thinking about it. The reason for my choice is a principle that every programmer must bear in mind. The idea of input is to make clear to the user what is possible and what is required, to check for excusable mistakes, to offer helpful advice if something is wrong, and then to start processing as soon as possible. Try to make the user think that the program is easy to get into, not what a clever programer you are.

Think of the most moronic person you know who might want to use your program. Would he be able to make it work? If not then your input routines are not sufficiently clear. Go back and start again. At the same time, don't overdo it. If you are writing a program about differential calculus, a computer response of 'Redo from start' is acceptable – if the program is a game for seven year-olds, then it isn't.

Consistent files

Confirming a response depends on what will happen. Confirm for drastic effects such as erasing files. It's also right to ask for confirmation after a long series of inputs. But remember that an experienced user gets irritated if it happens too often. (Do you want to run the program again? Y/N. N. Do you really mean No?)

There is a school of thought that believes INPUT should always be used for a response, and never INKEY$ or INPUT$(1). I disagree, but appreciate the point. My view is that the user shouldn't have to press more keys than necessary. On the other hand, consistency within a program is important. There is nothing wrong with: Press E to end, Hit Q to quit, Use EXIT to finish. But you shouldn't use different routines to acheive the same ends at different points in the program.

Going back to BRITMAP, the main INPUT section deals with the records in the files. Let me say that I wouldn't claim that input is the strongest feature of my programming, so I want you to look at this section with a critical eye. It is generally much easier to pick holes in another person's program than in one's own. That's why it is always useful to have a second person to check a serious program. Ask these questions about lines 1000-1999.

Is the user given the option to do anything that she might reasonably wish to do with the records? Are the instructions clear after the choice has been made? Is it possible for a genuine but obviously wrong entry to go into the file? When completed, do you easily return to the part of the program you would like to use next? If you suddenly realise that the last input was wrong, is it fairly easy to correct it? Is the screen arrangement tidy? Is the screen cleared too often or not enough? Would greater decoration help or hinder? Is the spelling correct?

Processed peeks

When I looked at this section again, I thought that possibly there should be an extra option to INSPECT a record. I could have written it in, but I didn't. You will learn more if you do it yourself. After all, the code between 1400 and 1460 is almost what you want. It is probably easiest to copy it at 1700 and make the amendments, but it would be shorter to make the routine work for both INSPECT and AMEND by making alterations in lines 1400-1460.

While I have said earlier that processing can often be the easiest part of a program, this only comes with practice. An experienced programmer will generally find that he or she has done something that is very similar in the past. If the algorithm is familiar, the coding is unlikely to cause many problems. On the other hand, there are a great many tricks that a computer can play, and there are a great many tricks that a programmer must learn before it all comes easily.

It is clearly impossible to show you all these tricks in a short series of articles, so I will confine my comments to a retrospective look at my early days of programming. Once you start to become interested in programming, there will be a great many times in everyday life when you will think: "Could I program this?"

If the answer is 'no', that's it, but even if the answer is 'yes', it probably won't be worth doing unless it's an obvious time-saver. The interesting answer is 'maybe'. You will usually find that maybe becomes yes, but that sometimes weeks or months elapse before it does so.

Programming syntax

I chose to write the third option in BRITMAP by employing random numbers in a way that was entirely new to me. There would be other ways, maybe better ways, to achieve the route decision making. A more conventional approach would use FOR-NEXT loops to explore all possible routes before making a decision. Using random numbers is slightly quicker in that you can expect a 'good route' rather than the 'best route' in a much shorter space of time. But, as I say, the main justification for this approach is that it was more interesting to program.

In a sense, this option is a miniature of general programming technique. The method is simply to choose suitable arrays and the only thought provoking part is to work out a method of filling an array with a random permutation of the first M numbers (a permutation is an arrangement – 45312 is a permutation of 12345). Once the subroutine at 3900 had been written to do this, the rest of the programming was easy – apart from the 20 syntax errors – about par for the course.

Promptly, please.

If an INPUT line is left to a bare statement such as: 10 INPUT a$ the computer will prompt simply with a question mark. It will also produce a question mark if you include a prompt followed by a semi-colon: 10 INPUT"Enter your name ";a$ If you replace the semi-colon with a comma, the question mark will not appear. An alternative method is to change the prompt from a question mark into any other character you like. In Mallard 1.29, all that is needed is to POKE 17240 with the ASCII value of the required prompt. For example, POKE 17240,60 would give the > prompt, as in CP/M. In Mallard 1.39 (for the 9512) the location to POKE is 17311.

Heinz 57

One of the major problems for a serious programmer on the PCW is that programs should work on all machines. In an ideal world, one would have an 8256, 8512 and 9512 ready to use, Mallard 1.29 and Mallard 1.39, all the different versions of CP/M and the 57 varieties of LocoScript. Not many of us have, so intelligent guesswork is sometimes needed.

The open part of CP/M seems to be the same in all the versions of CP/M distributed with 8256s and 8512s, although what goes on in hidden memory differs greatly. The following corrections may be important only to 9512 owners: in Lightning Plus, the RUN # command doesn't work on the 9512. However if you POKE 57520,163 before using it, it will work. In Mike Keys' book, PCW MACHINE CODE, a reference is made to memory banking with a routine (MEM_M) at 64801 in CP/M. The equivalent address on the 9512 is 64813.

Numbers up

Make x=3.47 (or any other number you choose), and v=VARPTR(x). Now PEEK the locations from v to v+3. The four numbers you will get are the computer's method of storing the number 31.47. (Mathematicians may like to spend a wet Sunday afternoon working out just how these numbers relate to the original).

Now make a$=MKS$(x), and you will find that if you look at the ASCII codes of the four letters in a$, you will get the same numbers. Next try RANDOMIZE x, and PEEK the four bytes from 29495 in Mallard 1.29 (the version supplied with the 8256 and 8512). For 29495 read 29636 for Mallard 1.39 (supplied with the 9512). Ha, you get the same four bytes, don't you? No. Fooled again, the first byte is normally different. It is actually created by XORing the first and fourth byte of the number stored as the variable. I wonder why. I don't know, do you? Incidentally the number stored in the four byte buffer is known as the seed of the random generator and every time you use RND these bytes will change.

Disc management

This part of the program is responsible for looking after the various files used by the program BRITMAP.

```
1000 GOSUB 5800:OPTION RUN:PRINT"FILE AMENDMENTS."
```
Best to use OPTION RUN to ensure any file updating is complete and consistent.

```
1010 PRINT"Press D to delete a town from list."
1020 PRINT"Press A to amend an entry."
1030 PRINT"Press N for new entry."
1035 PRINT"Press M to return to Menu."
1040 x$="DANM":GOSUB 5010
```
The menu, and NO it isn't a swear word in line 1040!

```
1045 IF l=4 THEN 1800:PRINT en$:ELSE ON l GOSUB
1200,1400,1600:PRINT d$
1050 GOSUB 5450:GOSUB 5800
1060 GOSUB 5020:IF l=1 THEN PRINT c$:GOTO 1010:ELSE
     OPTION STOP:RETURN
```
The engine room of the section. The option chosen will fill the necessary variables and the subroutine at 5450 is used to update the sequential file.

```
1200 PRINT c$:INPUT"Enter the number to delete (0 for no
     deletion): ",p
1210 IF p=0 THEN RETURN
1220 GOSUB 5510
1230 PRINT t$(p)" Delete Y/N?
```
Deleting is a very final decision. So give the user a last chance!

```
1240 x$="YN":GOSUB 5010:IF l=2 THEN PRINT c$:GOTO 1200
1250 e(p)=0:RETURN
```
London, or wherever, consigned to limbo.

```
1400 PRINT c$:INPUT"Enter the number to amend (0 for no
     amendment): ",p
1410 IF p=0 THEN RETURN
1420 GOSUB 5510
1430 PRINT t$(p):PRINT INT(la(p))"degrees"ROUND((la(p)-
     INT(la(p)))*60);
1440 PRINT"minutes North."
1450 x=ABS(lo(p)):PRINT INT(x)"degrees"ROUND((x-
     INT(x))*60);
1460 PRINT"minutes ";:IF lo(p)>0 THEN PRINT"West":ELSE
     PRINT"East"
1470 GOTO 1610
```
Amending a record requires the same data as writing a new record. This is where one must think what the user needs. It may be that only one change is needed, so it is correct to give the whole of the record so that the correct parts can be entered. Note the GOTO in 1470. This is the correct use of an unconditional GOTO, to save writing the same code twice.

```
1600 GOSUB 5200:p=n:IF n=31 THEN PRINT"No spare
     entries.":GOTO 1010
```
This line is not needed by AMEND. From now on AMEND and CREATE NEW RECORD work in exactly the same way.

```
1610 PRINT"Entry"p:GOSUB 5300:t$(p)=d$
1620 PRINT"Enter degrees and minutes North."
1630 c=49:d=56:IF l=1 THEN d=3
```
The values of c and d are the minimum and maximum values possible for a correct entry of latitude (later longitude), which are passed to the subroutine.

```
1640 PRINT"Press W if West and E if East."
1650 x$="EW":GOSUB 5010
1660 c=0:d=6:IF l=1 THEN d=3
1670 GOSUB 5310:IF l=1 THEN a=-a
1680 lo(p)=a:GOSUB 5400:e(p)=1:IF p>me THEN me=p
1690 RETURN
```
The subroutine at 5400 makes the entry in the random file.

```
1800 GOSUB 5450:OPTION STOP:RETURN
```
Tidy up for the eccentric user who looks at a menu and then doesn't want to do anything.

Route Planner

This section of the program is responsible for finding the shortest route through the towns you've selected, or at least a short route.

```
3000 GOSUB 5800:PRINT c$:RANDOMIZE PEEK(64504!)
```
This is not the only way to ensure that each sequence of random numbers is different each time the program runs, but it is the simplest. Location 64504 contains the 'seconds' on the internal clock.

```
3010 PRINT"Enter number of start and finish town:
     ";:GOSUB 5500:x=p
3020 INPUT"How many OTHER towns to visit? ",m
3025 IF m>8 THEN PRINT"Too many.":GOTO 3020
3030 DIM r(m+1),s(m+1,m+1),h(m+1),g(m+1)
```
There is no particular reason why we should not have more than 8 towns, but it would take a long time to process effectively. Since the arrays are defined in the sub-program they will have to be erased after running, as arrays cannot otherwise be redimensioned.

```
3040 PRINT"Enter each of these by number:"
3050 FOR n=1 TO m:PRINT"<";:GOSUB 5500:r(n)=p:NEXT
3060 r(0)=x:r(m+1)=x:PRINT:PRINT"Please wait.
     Calculating!"
```
The first and last town in the list is set to the 'home' town.

```
3070 FOR n=0 TO m+1:FOR q=n+1 TO m+1
3080 a=lo(r(n)):b=la(r(n)):c=lo(r(q)):d=la(r(q)):GOSUB 5100
3090 s(n,q)=x:s(q,n)=x:NEXT:NEXT
```
It will be quicker to calculate all the distances between any two towns on the list and use the s() 2-dimensional array formed. Note that we cut processing by half using the fact that A to B is the same distance as B to A.

```
3100 PRINT c$:PRINT"Trying routes.":q=0:w=500000!
3110 PRINT"Beep means better route found."
3120 PRINT"Press EXIT when you have had enough."
3130 WHILE z$<>CHR$(27):z$=INKEY$:GOSUB 3900
```
This is the RIGHT use of INKEY$! Ignore if no key pressed. The GOSUB perms the towns and the tour distance is calculated from the s() array.

```
3140 ww=0:FOR n=0 TO m:ww=ww+s(h(n),h(n+1)):NEXT
3150 IF ww<w THEN PRINT b$:GOSUB 3800
```
The result is updated only if a better solution is found.

```
3160 q=q+1:PRINT FNs$(6,0):q:WEND
```
A counter on the screen keeps the user happy.

```
3170 PRINT c$"The best route we have found is:
3180 a=r(0):PRINT t$(a):FOR n=1 TO m
3190 b=r(g(n)):PRINT t$(b):NEXT
3200 PRINT$(a)
3210 PRINT:PRINT"The total distance is"w"miles."
3220 GOSUB 5020:ERASE r,g,s,h:IF l=1 THEN PRINT
     c$:GOTO 3010:ELSE RETURN
```
When the user has had enough, the best route found is displayed.

```
3800 w=ww:FOR n=0 TO m+1:g(n)=h(n):NEXT:RETURN
```
The array g() is updated whenever a 'better' route is found.

```
3900 FOR n=1 TO m:h(n)=0:NEXT
3910 FOR n=1 TO m
3920 r=INT(RND*m)+1:IF h(r) THEN 3920
3930 h(r)=n:NEXT
3940 RETURN
```
This subroutine sets the array h() with m numbers which are a permutation of the numbers 1 to m.

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PAYE ROLE

Supercalc, assisted by Tim Nott, turns the tables on weekly wages

Thank God It's Friday at Minute Mansions. You've nearly cleared your in-tray, the books are up together and the loyal, skilled workforce are putting the finishing touches to a Very Important Project. Discretion and modesty forbid you reveal the client's name, but the words "By appointment to..." could shortly be appearing on your letterhead.

Panic sets in as you realise that the bank shuts in 15 minutes and you haven't prepared the wages. As you frantically scrabble through the filing cabinet for the forms, tables, calculator and little pink pills, the thought crosses your mind that there must be an easier way of doing this.

When you first employ people in your business, the Inland Revenue will send you a large package containing several weeks worth of reading material, books of tables, and reams of forms. These will enable you to operate the PAYE system (Pay As You Earn if you are an employee, or Paperwork Ascending to Your Ears if you are an employer). This month's spreadsheet takes the hard work out of preparing the weekly wages.

But in order to design a suitable spreadsheet it's necessary to take a look at how PAYE works. The core of the system is the deductions Working Sheet, affectionately known as a P11, one of which must be kept for each employee. This form, as well as containing boxes for the employee's and employer's details, consists of a series of rows and columns, which should ring a bell.

There is a row for each week of the year: these are numbered from 1 (the first payday after 5th April), to 52. There are columns for the week's gross pay, National Insurance (NI) contributions, total pay for the year so far, total tax-free pay, total taxable pay, total tax due and the tax due or refunded in the week. Phew. There are other columns for sick and maternity pay and "contracted out" rates of NI. Each payday, you must record the gross pay, and using three sets of tables and some arithmetic, calculate and enter the tax and NI due. These you must deduct from the wages, and hand over to the Inland Revenue at monthly intervals. Supercalc cannot fill in the P11 for you, but it can be persuaded to replace the tables and handle the sums, and this month's spreadsheet does just that. To keep matters simple it has been designed for weekly paid staff, paying tax and NI at the standard rates, who are neither ill nor pregnant.

Prepare a SuperCalc start of day disc (see issue 34) and boot up your PCW. Start by setting the column widths. Set column A to 10, with the command /FC A[RETURN] 10[RETURN], then set column B to 1, C to 4, D:F to 7, G to 9 and H:L to 8. Right justify the text to be entered in rows 5 and 6 with /FR 5:6[RETURN] TR[RETURN], and finally, set columns D:L to money format with /FC D:L[RETURN] $[RETURN].

You can now start to type in the text and formulae shown in the listing. If your formatting is correct, the odd looking text entries in rows 5 and 6 should now make some sense.

Rows 9 and 10 are where the action is. G9 and J9 are reserved for the pay and tax totals from the previous week. A10 contains the employee's name, B10 is a copy of C3, where the week number will be entered. As column B is only one character wide, this does not appear on the screen, but Supercalc knows it is there. C10 contains the employee's tax code, entered as a number, without the final letter, and D10 will contain the week's gross pay.

National Insurance contributions consist of the employee's share, deducted from the wages, and the employer's, payable in addition by you, the boss. Both of these are calculated on a sliding scale, the percentage due increasing with the gross pay. The formulae in E10 and F10 take care of this, replacing the standard rate tables.

Although these might appear somewhat intimidating, they can be taken apart, bracket by bracket, rather like a set of Russian dolls. Taking E10, the outermost layer ROUNDS the result to whole pence, as shown last month. The other layers consist of nested IF statements.

A gross of paye

The first one sees IF the gross pay is less than £43. IF so, then the result is zero - no NI is payable, and the rest of the formula is ignored. IF not, then the head is popped off another doll, or IF statement. This time IF the pay is less than £75, the result is D10*.05, or 5% of the gross pay, IF not, open the next doll. Less than £115 and the rate is 7%, £115 or more and the final doll is opened. This states IF the pay is less than £325, then the NI is 9%, IF not then 9% of the first £325 is due. This is the "ceiling"- your lucky employees pay no more NI after this.

The employer's contribution is calculated by F10 in a similar way, except that there is an additional rate band of 10.45% at £165, and no "ceiling".

Unlike NI, which relates solely to the current week, tax is calculated on running totals. G10 adds

```
   A    B  : C:: D :: E :: F :: G :: H :: I :: J :: K :: L :
 1:Minute Mansions- Payroll
 2:
 3:Week no.      19
 4:-------------------------------------------------------------------------
 5:          PAYE  Gross NI Em- NI Em-    Total      Free Taxable    Total  Thisuk    Nett
 6:          Code   Pay  ployee ployer      pay       pay     pay      tax     tax     pay
 7:-------------------------------------------------------------------------
 8:
 9:                          Last Week     3237.98                    568.00
10:McAlpine R  278 182.00  16.45  19.10  3420.78 1019.16 2401.62    600.25   32.25  134.10
11:
12:                         Last Week     3562.88                    611.50
13:Wren C      437 203.40  18.31  21.26  3766.28 1800.18 2166.08    541.50   30.00  155.09
14:
15:                         Last Week     3786.89                    451.00
16:Parton D    283 144.93  13.04  13.04  3931.82 1037.40 1894.42    473.50   22.50  109.39
17:
18:                         Last Week     3981.76                    504.00
19:Ibsen H     278 182.00    .00    .00  3023.01 1019.16 2003.85    500.75   -3.25   44.50
20:
21:
22:
23:
24:                                                          Cash needed      443.08
25:
26:
27:
: 019          Form=41,25                                          Protected Entry
Width: 7  Memory: 28 Last Col/Row:L24    ? for HELP
  1/1
```

If you're prepared to sit down and puzzle out the requirements of PAYE and the rest of the rules regarding wages a spreadsheet like SuperCalc 2 is more than powerful enough to handle the payroll needs of a small company.

Help - my disc's full

You may feel brave enough to dispense with the 'Help' facility and use the 14k the SC2.HLP file takes up an your disc or M drive more profitably. The bad news is that if you erase it, Supercalc is smart enough to realise this and refuses to operate. The good news is that it isn't smart enough to spot a fake - create an empty file of the same name instead.

this week's gross pay to the previous total to get the total pay for the year so far.

Each employee comes equipped with a tax code, which denotes how much they can earn before paying tax. For instance, your tiny bricklayer, Bob McAlpine, a single man, has a tax code of 278, which means he can earn £2785 p.a. tax free. Chris Wren in the drawing office is married - his code is 437 and his annual allowance is £4375. To spread the load over a year, the Free Pay tables take the code and week number and give the accumulated free pay for any given week. For arcane fiscal reasons everyone on PAYE is allowed a little more, and without going into the niceties of this, the formula in H10 reproduces exactly the 52 A4 pages of the Free Pay tables.

Replicate after me

I10 subtracts the free from the total pay to give the taxable pay. The IF statement prevents this being negative as the Revenue do not give money away.

J10 replaces the final, Taxable Pay, tables, performing the heady task of working out 25% of the whole pounds (or INTeger) of taxable pay to give the total tax due. From this K10 subtracts that already paid, to give this week's tax. This can produce a negative result – in the example, poor Mr Ibsen had such a bad week that he gets a refund. Finally, L10 subtracts the week's tax and employee's NI to give the nett figure – what actually goes in the wage packet.

The formulae should then be repeated for each employee. Supercalc cannot replicate a block, so the /C(opy) command is used. This is similar to the replicate command but only produces one copy. The command is /C B9:L10[RETURN], followed by the top left hand corner of the destination, B12[RETURN]. Repeat for each employee, with the destinations B15 and B18, then fill in the names and the correct tax codes.

The last formula, in L24, adds up the nett pay totals and tells you how much money to hit the bank for. Your spreadsheet is now ready to use – simply enter the week number, then, for each employee, the previous pay and tax totals from their P11, and the current week's gross pay. Supercalc will do the rest, leaving you to copy the new details back. Do test your spreadsheet carefully, especially if you intend to use it for real.

Drink on it

To avoid the embarrassment of overwriting a formula with data, safeguard your investment by using the /P(rotect) command. You need to protect everything except the week number and the weekly data for each employee. The simplest way to do this is to protect the entire spreadsheet with /P ALL[RETURN], then move the cursor to each cell you do not want protected and unprotect it, by typing /U[RETURN]. Follow this in each case by entering a zero in the cell. The cells to unprotect are C3, then G9,J9,D10, then G12,J12,D13, and so on. Now, if you try to enter data in any of the protected cells, Supercalc will refuse, unless you unprotect the entry first.

Now for the final bit of magic which will stop you wearing out your fingertips and the little arrows on the cursor keys. Move the cursor up to B3, then right to C3, so that the arrow on the status line points to the right. Type /GT, then immediately save your spread sheet, not forgetting the drive letter. Supercalc will not, alas, bring you the Gin and Tonic that you richly deserve, as GT stands for Global Tab. It will, however, move the cursor to the next unprotected cell after each data entry. So once you have entered the week number, the cursor will leap to cell G9, ready for you to enter the last total pay for the first employee, and so on. /GT is a toggle, so the same command will restore the cursor to normal.

That concludes the PAYE spreadsheet. It is now up to you to experiment – how, for instance, would you go about getting this spreadsheet to cope with the reduced NI rates for married women or people of pensionable age? ■

Blind date

Supercalc date functions display in US format: MM/DD/YY. This can be translated into English by first hiding the US date, then extracting the day, month and year into separate cells. For instance if you have the system date in A1, hide it with the format command /FE A1[RETURN] H[RETURN], then enter DAY(A1), MONTH(A1), YEAR(A1) into cells A2, A3 and A4. You may need to experiment with the formats to get a neat result, but at least you won't be celebrating Independence day on the seventh of April.

Hash up

The last article's tip on printing pound signs fell in its own trap. The line in the key definition file should contain a pound sign between the quotes. This got changed into a hash sign by undercover agents of Ascii.

Disbanded

Nigel announced in the budget that as from 5th October the intermediate rates of employee's NI would be abolished. The DHSS have yet to issue new tables, but it seems that the new rates will be nil for under £43, then 2% of the first £43 and 9% of the rest, up to the same ceiling of £325. Can you IF this into shape?

Cell block

This month's spreadsheet cell by cell. Position the cursor on the appropriate cell, and type in everything to the right of the equals sign, followed by [RETURN]. Remember that every left hand bracket should have a right hand mate.

```
A1 ="Minute Mansions- Payroll
A3 ="Week no.
C3 =0
A4 ='-
C5 ="PAYE
D5 ="Gross
E5 ="NI Em-
F5 ="NI Em-
G5 ="Total
H5 ="Free
I5 ="Taxable
J5 ="Total
K5 ="Thiswk
L5 ="Nett
C6 ="Code
D6 ="Pay
E6 ="ployee
F6 ="ployer
G6 ="pay
H6 ="pay
I6 ="pay
J6 ="tax
K6 ="tax
L6 ="pay
A7 ='-
E9 ="Last Week
G9 =0
J9 =0
A10="McAlpine R
B10=C3
C10=278
D10=0
E10=ROUND(IF(D10<43,0,IF(D10<75,D10*.05,IF
(D10<115,D10*.07,IF(D10<325,D10*.09,325*
.09))))),2)
F10=ROUND(IF(D10<43,0,IF(D10<75,D10*.05,IF
(D10<115,D10*.07,IF(D10<165,D10*.09,D10*.1045
))))),2)
G10=D10+G9
H10=INT((C10*1000+948)/52)*B10/100
I10=IF(G10>H10,G10-H10,0)
J10=INT(I10)*.25
K10=J10-J9
L10=D10-E10-K10
```

Repeat the last two rows for each employee, changing the names and tax codes, and leaving an empty row between them.

```
J24="Cash needed
L24=SUM(L10:L19)
```

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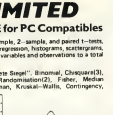

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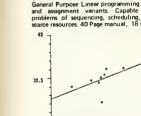

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Lew Pain combines computer and camera – and takes to the sky.

Lew Pain, aviation photographer. 'The next addition to my PCW has to be the memory upgrade and second disc drive. I would then like the LocoSpell program, to save the hours spent thumbing through the dictionary. I might even buy a game or two.'

Photographers are popular people. After all, it's the second most popular hobby in Britain. This popularity rises to the fore very quickly on social occasions when the inevitable 'And what do you do for a living?' is posed.

The ladies usually zero in pretty quickly onto the finished product – the picture; men, however, are a strange breed that divide neatly into two groups: the technical buffs who instantly plunge you into dark discussions on lens resolution or backlit exposure control and the others who regard the camera as a superior form of male jewelry; here, the conversation will probably swing towards the latest in designer neckstraps.

Just mention that you are a dedicated aviation photographer and a void appears as if by magic around you. You're branded a nutter – someone to be avoided at all costs. Despite the isolation, aviation is my first love and my collection of negatives and slides runs into many thousands.

It had become obvious some years ago that my filecard system was beginning to creak under its own weight and size. I could hardly see over the top of the pile of fileboxes. A busy semi-professional who spends long hours on the airfield and even longer ones in the darkroom doesn't have time to waste digging through dusty old cards to meet editors' deadlines.

Nevertheless a bright star was beginning to appear in my sky. This, I thought, is just the job for a computer. In the nick of time, a friend offered to lend me his Tandy TRS1 for as long as I needed it. I jumped at the chance. Never mind that the bulk of its two drives combined rivalled the dimensions of the old fileboxes; it would do my searches for me. An added bonus was that copies of dBase II and WordStar were also included.

Back to databasics

Alas, those prophetic technical writers in the magazines were correct in saying that dBase was difficult to use. It resolutely fought me every inch of the way on anything I wanted to do. The manual wasn't a lot of help and seemed to be doing more for my biceps than anything else. Something had to give. My neighbours finally made up my mind by mistaking the noise of the drives for low-flying jets; I kissed the Tandy goodbye.

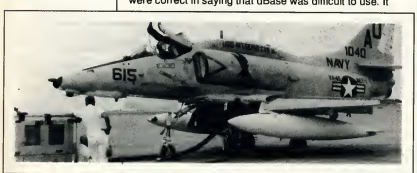
When I heard that Alan Sugar had knocked £100 off the PCW 8256, it struck me that what had been good value before was a truely excellent buy now. Clutching my protesting credit card, I went down to the local dealer to collect my big box.

My long-suffering wife bought me a copy of LocoScript 2 and I invested in a copy of Masterfile 8000 for my database requirements. The astute reader will have noticed, by this time, that, although I admire those who sit down to a blank screen and build their own programs from scratch, I do not number amongst their ranks. To me the computer is a tool to be used in support of other activities and good software is readily available to help me do it.

This brings me to my experiences with Masterfile 8000. My primary requirement was to list all my aircraft negatives and slides with as much basic descriptive information about the picture as possible. I chose to do this in 80 characters so that one entry only occupied one screen or printer line. This makes for easy browsing through the files when desperately trying to find a subject for the next epic. ■

The Collector

Masterfile 8000 can be used for the storage and maintenance of any large collection lists – records and tapes as well as books and magazines. It's not bad at addresses either. The time and trouble saved is well worth the initial effort involved in setting up your own personal database.



An A-4E Skyhawk, serial no 151040, of the US Navy on pre-flight checks; not much research needed here on markings

Is it a bird? Is it a plane?

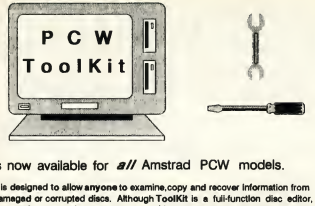
I chose my fields with care but it was always obvious that some compromises would have to be made in the interests of compressing data. Picture locations like Middleton St. George or Tarant Rushton are wonderfully quaint, atmosphere-provoking names but they gobble up disc space. The solution was to use a three-letter phonetic code with the first letter representing the first letter of the location. Thus London Heathrow became LHR and Yeovilton VLT (the letter Y isn't used in aviation circles where it can be confused with V.)

The field entitled Aircraft Type posed further snags. I had decided to list the names of the aircraft as they existed at the time of taking the photograph. 'How logical,' you might think. -

But let's consider the case of the dear old Douglas DC3, known and loved all over the world as such. Or at least until the United States Air Force got their hands on it and called it the C-47. The United States Navy wasn't impressed and called it an R4D instead. The Royal Air Force cynically ingnored everybody and called it a Dakota. And so on. As this is something that happens quite often, you need a very good memory when making a search for a particular aircraft type.

I decided to sacrifice another four letters from my precious eighty and inserted a field, subtly entitled Find, and in it, listed the type as I knew it best. In this case, I called it the C-47 in every entry and so, in one simple search, regardless of the actual listed designation, I could pull them all out without any loss of sleep.

I am now in a better position to supply, by return mail, all those difficult responses to serious collectors and researchers who ask 'What do you have on Luftwaffe F-104s?' or 'How many 83 Squadron pictures do you have?'



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OCCUPATIONAL DISEASES

LANGFORD

A page in the company of author and PCW pundit David Langford

Does your PCW give you nasty pains in the back? Suspicion eventually fell on my various computers when early this year I found myself groaning, limping, hurling myself out of bed screaming with cramp, etc.

Friends rallied round at once. Being my friends, they started by diagnosing kidneys wrecked by alcohol, went on to suggest that I was paying the inevitable penalty of being too tall ("Your disintegrating backbone just gets worse all the way to the grave now."), speculated on loathsome viral ailments unknown to science, and hit bottom with merry hints (many of them from the other director of Ansible Information Ltd) about spinal cancer.

My doctor took a less alarmed view when he discovered how much time I spent hunched over word processors. It was the old problem of correct typing posture, which you tend to forget when running your fingers over something as effortless as a PCW keyboard. A contributing factor is that after all one's investment in computer hardware, there's rarely much spare change for mundane matters like office furniture. Rather suddenly it dawned on me that despite the above-mentioned Langfordian tallness, all my work for one magazine was being done at a battered little desk which my brother-in-law had used at the age of twelve. This is known as stupidity.

I'd better break it to you that grown-up desks with plenty of legroom are not available on NHS prescription. However, the investment worked well enough to make me recommend taking a critical look at whatever rickety washstand or tottering card-table currently holds up your PCW. With bad luck like mine, the result can be the kind of disc inflammation which Dave's Disk Doctor Service Ltd is not equipped to handle.

Here are further totally ill-informed health notes.

PCW Pink-Eye is merely a harmless optical after-image effect, whereby after long staring at a green screen, you temporarily see pale objects as pinkish. Immediate first-aid action consists of telling yourself loudly that this is not some frightful irreversible damage caused by dread VDU radiations. I have tried, and don't recommend, swapping each half hour between the 8512 and a machine with an amber monitor. An alarming intensity of after-pinkness might indicate poor workroom lighting: even if you touch-type perfectly and think you look only at the self-illuminated monitor, excessively dim surroundings tire the eyes.

(Personally I advise keeping the monitor brightness turned well down. One of those mesh filters might also help, by eliminating reflection from the screen; but if your screen is a glittering riot of reflections and highlights there's probably something wrong with the arrangement of workroom lighting and furniture.)

PPC Finger, a more complex syndrome, results from the interaction of one's old-fashioned, metal Anglepoise lamp with the liquid crystal display of an Amstrad PPC luggable computer. After the 827 adjustments of screen and lighting angle required before you can view this wretched display even semi-comfortably, you'll have acquired several painful blisters from the hot metal shade. Cure: a midget fluorescent desk-lamp. More expensive cure: sell the PPC to an enemy and find a portable with a backlit display.

IBM Hernia needs no more equipment than one of those old IBM XT clones built like the legendary brick outhouse. Simply rearrange your office furniture on medical advice, pick up this machine without first dismantling it into the smallest possible bits, scream while putting it too hastily down, and seek more medical advice.

Paper-Align Jitter, a nervous affliction of the wrist muscles, begins to set in after the first fourteen attempts to get the PCW printer to roll in a sheet of A4 without tilting it just slightly out of line. Sprocket-fed continuous paper is the only known cure.

Write-Protect Fingernail occurs when, as always, no stout ballpen is to hand when you need to protect or unprotect the sort of disc requiring manipulation of a tiny, recessed and exceedingly stiff lever. (Warning to DIY enthusiasts: oiling this lever is not a good idea.) The resulting split and splintered nails can produce hideous side-effects if you ever idly pick your nose while brooding at the keyboard, but for the sake of the squeamish I will not go into detail about Write-Protect Nostril. Cure: try and stick to discs with sliding protection tabs, not the lever-action variety. Sorry about that, Maxell.

Daisywheel Despondency principally attacks 9512 buyers who thought they would be getting something much better in every way than the presumably cheaper and nastier 8256/8512. Agonizing bouts of existential dread and despair follow the discovery that of all those hundreds of fancy LocoScript characters, only a very few of the snazzier ones can be handled by a 96-petal daisywheel. Cure: pay extra for a matrix printer, or gloomily learn to fake exotic symbols – for example, type copyright signs with brackets as (c).

(A snippet of information from overseas: as mentioned long ago in issue 10, the copyright protection which in British law exists the instant you write something is extended to the USA when you add a copyright notice. But, it seems, you must use the real C-in-a-circle; a puny little C in brackets *doesn't count in* America.... This needn't worry you unless you actually publish your own stuff.)

The Bottom Line. Which aspect of literary health is the most fundamentally unsound? In the end, long-serving professional writers who sit all the time at their word processors are most often heard to complain in embarrassing detail that it gives them piles. If you are seriously afflicted by these painful heaps of abandoned drafts and early print-outs, you should at once consult a qualified dustman.■

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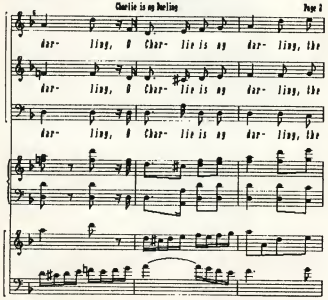

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LISTINGS

Seriously sensible software? You've got to be kidding.

PIFFLE

by David Patient

This program will produce nonsense sentences using subjects, objects and verbs chosen at random. Its only real purpose is to amuse, and why not? The program works by selecting subjects, objects and verbs at random from the relevant arrays and stringing them together. With a little ingenuity this could be extended to write bad poetry or rather good house descriptions for estate agents (the subsidence-has been-redecorated throughout.)

To extend the vocabulary of the program, just add more data in the appropriate places and change the S, O, or V variables at the beginning of the program to reflect the actual number of subjects, objects and verbs.

The author of this program is of course heavily related to the editor and in reply to charges of nepotism, the latter pleads that he got the listing very cheaply, that it made him laugh and that it's short. Any program meeting these three criteria will always be givenserious consideration. ■

```
Silly saying number  25
A demented frog is full of the elephant's bum

Silly saying number  26
A cat is in my memory chips

Silly saying number  27
The hamster is in front of your feet

Silly saying number  28
The computer has leapt onto my memory chips

Silly saying number  29
Your printer has just eaten your feet

Silly saying number  30
A cheese sandwich is glued to the roses in my neighbour's garden

Silly saying number  31
Your printer has just eaten the 8000 Plus magazine

Silly saying number  32
My hovercraft has just missed your feet

Silly saying number  33
The next door neighbour's dog is playing your feet
```

Silly sayings can be a lot of fun. We added lines to number them here.

```
10 REM *********PIFFLE - By David Patient*********                133B
20 cls$=CHR$(27)+"E"+CHR$(27)+"H":PRINT cls$                       10DA
30 randomize (peek(64503))                                         0AF6
40 PRINT cls$                                                      0628
50 s=10:o=8:v=12                                                   0682
```

These lines set up the program. The screen is cleared and the random number generator seeded from the internal clock using the PEEK() command with RANDOMIZE().

```
60 DIM sub$(s):DIM ob$(o):DIM vb$(v)                               0F2A
70 FOR r=1 TO s:READ a$:sub$(r)=a$:NEXT                            13AB
80 FOR r=1 TO o:READ a$:ob$(r)=a$:NEXT                             12AB
90 FOR r=1 TO v:READ a$:vb$(r)=a$:NEXT                             1301
```

The three arrays are initialised and the data read into them. Remember that the number of READS must match the number of DATA items.

```
100 x=INT(RND*s)+1:PRINT sub$(x);" ";                              104B
110 x=INT(RND*v)+1:PRINT vb$(x);" ";                               0EB3
120 x=INT(RND*o)+1:PRINT ob$(x);                                   0E0F
130 FOR r=1 TO 1000:NEXT:PRINT:GOTO 100                            1336
```

The program chooses a subject, an object and a verb at random before displaying them. The FOR NEXT loop gives a one second delay before the next message is displayed.

```
140 REM ********SUBJECTS                                          099F
150 DATA A demented frog,A cat,The next door neighbour's dog       1F49
160 DATA The computer,The hamster,A cheese sandwich                1B6B
170 DATA A deep sea diver,My hovercraft,Drive A,Your printer       2062
180 REM ********OBJECTS                                           0975
190 DATA my memory chips,my nose,the elephant's bum                1BEA
200 DATA the roses in my neighbour's garden,your feet              1D83
210 DATA the guitar,the 8000 Plus magazine,his nose hairs          1E71
220 REM ********VERBS                                             084B
230 DATA has just eaten,is getting up,is under,is full of          1E8F
240 DATA is in front of,has gone to Venice on,is in,fondles        1EC4
250 DATA has just missed,has leapt onto,is playing,is glued to     21B7
```

The data for the program is read in from the data statements. It's important that the number of entries under each category matches up with the variables s, o and v.

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BIG 'UNS

by Helvetica Allcaps

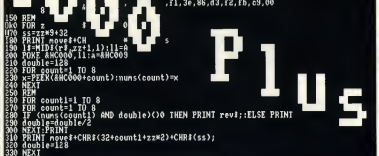
This program appeared in response to a mildly worded query concerning the printing of big letters on the screen using standard keyboard input. The idea is that you type a character and it appears eight times bigger on the screen at the current cursor position.

Since this program merely demonstrates a technique that you can make use of it has been kept to an absolute minimum in order to make it easier to adapt for your own programs. It could be used for such things as display headlines for programs or amusing asides for games. Doing it this way makes it very simple to alter any messages you choose to use since all the work of enlarging them is done automatically.

The problem is simple enough in conception; a screen character is made up of an array of dots eight high and eight deep. Anywhere there would be a dot the program needs to print an inverse square in an eight by eight character grid. Unfortunately, the character matrices are held in one of the memory blocks you can't normally get at (along with the screen RAM in fact).

To make the program work a short machine code routine is needed to switch in the memory blocks with the character RAM and then to copy the matrix of eight bytes to the memory where Basic can get at it. Once there it is a simple matter to run through the bytes with a pair of nested loops and write the letter in question - large.

For anyone who would like to know how to get at the character RAM – perhaps to define their own characters – we've printed the machine code routine in full with comments to explain how it's all done. In the meantime, it's amusing to type in a character and see how it's made up. ■



This screen shot was taken using the original listing plus a loop, MID$ and cursor positioning to print a string.

This is the listing for the machine code required by the BIG 'UNS program. It shows keen sorts how to access the character RAM from Basic.

```
        org     0c009h      ;code must be ORGed at this
                            address
start:  di                  ;disable interrupts – important
        ld      a,81h       ;these OUT commands switch the
        out     (0f1h),a    ;required banks in at hex 4000 and
        ld      a,82h       ;hex 8000
        out     (0f2h),a
        nop                 ;this byte intentionally left blank
        ld      de,0b800h   ;address of character RAM
        ld      a,(0c000h)  ;Ascii value of required character
        ld      l,a         ;put value in register L
        ld      h,00        ;make sure H is zero
        sla     l           ;multiply value by 8 with shifts
        rl      h
        sla     l
        rl      h
        sla     l
        rl      h
        add     hl,de       ;add offset to base address
        ld      b,8         ;set up loop counter
        ld      de,0c001h   ;address where we want bytes
loop1:  ld      a,(hl)      ;get byte from address in HL
        ld      (de),a      ;put byte in our little array
        inc     hl          ;bump up HL
        inc     de          ;bump up DE
        dec     b           ;jump on counter
        ld      a,b         ;put count in register A
        cp      0           ;is it zero yet?
        jp      nz,loop1    ;if not, go around again
        ld      a,85h       ;all over, switch in the original
        out     (0f1h),a    ;blocks so that we can continue
        ld      a,86h
        out     (0f2h),a
        ei                  ;enable interrupts once more
        ret                 ;back to Basic
        nop                 ;gratuitous command
        end
```

```
10 MEMORY &HBFFF                                                    082A
20 FOR p=&HC009 TO &HC043                                           09D1
30 READ k$:x=VAL("&H"+k$)                                           097F
40 POKE p,x:NEXT                                                    08E0
50 DATA f3,3e,81,d3,f1,3e,82,d3,f2,00,11,00,b8,3a,00,c0,6f,26,00,cb,25  1642
60 DATA cb,14,cb,25,cb,14,cb,25,cb,14,19,06,08,11,01,c0,7e,12,23,13,05  16AF
70 DATA 78,fe,00,c2,2e,c0,3e,85,d3,f1,3e,86,d3,f2,fb,c9,00          148A
```

This section sets high memory to hex BFFF then reads the machine code routine in at hex C009. The nine hex bytes are used to transfer the data.

```
80 INPUT"Enter character : ",l$:l1=ASC(l$)                          1451
90 POKE &HC000,l1:a=&HC009:CALL a                                   0CFB
100 DIM nums(8),bine(8)                                             0976
110 double=128                                                      069C
120 FOR count=1 TO 8                                                08A9
130 x=PEEK(&HC000+count):nums(count)=x                              14E0
140 NEXT                                                            041E
```

This section asks for a keypress, stores the character Ascii value at hex C000 and calls the machine code routine. On returning from the call the eight bytes defining the character are read from hex C001 onwards.

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```
150 FOR count1=1 TO 8                                              094A
160 FOR count=1 TO 8                                               08B5
170 IF (nums(count1) AND double)<>0 THEN PRINT CHR$(27)+"p";" ";
    CHR$(27)+"q";:ELSE PRINT" ";                                   25E9
180 double=double/2                                                0A08
190 NEXT                                                           042D
200 PRINT                                                          0465
210 double=128                                                     069E
220 NEXT                                                           041A
```

These two nested loops take the eight bytes in turn and read the eight bits from each one. If the bit is a one, an inverse space is printed; otherwise, an ordinary space.

FOGGY

by Andrew Chapman

Andrew Chapman's observations on the nature of English, and how she is spoke, came earlier in the magazine. His program to calculate the FOG index is a bit of cheat really, but fun for all that.

The original FOG index (Frequency of Gobbledegook) was designed by Robert Gunning. Hard words are defined as those over three syllables. The percentage of hard words should be added to the sentence length and then multiplied by 0.4. If this sounds an odd procedure – well it is. It gives the US school grade required to understand the prose.

Andrew Chapman's program is much simpler. It's FOG index is a lot more arbitrary. Anything below 20 is capable of being understood by a trained newt while anything over 50 rates as pretty obscure unless you wrote it yourself.

What the program does is to read in a file, calculate the number of characters, words and sentences in it and finally from this information, it calculates a FOG index (rating hard words as anything over seven characters in length). It has a few limitations apart from the obvious ones, the main drawbacks being that it can only handle Ascii files and nothing over about 4.5k in length. ■

```
 1568   1568   1568
Chapman's fog machine...

Filename? test.txt
Calculating file length...

No. of characters in file... 1568
No. of words in file... 280
No. of sentences in file... 16


No. of words longer than 7 chars... 31
Fog index of this file... 28
Load another?
```

Are your words deeply meaningful? Find out and have fun.

```
10 cl$=CHR$(27)+"E"+CHR$(27)+"H":PRINT cl$                         0EF0
20 PRINT:PRINT:PRINT"Chapman's fog machine..."                     192C
30 PRINT:PRINT:INPUT "Filename";f$                                 12F7
40 PRINT:PRINT"Calculating file length...":flag=0                  1B1C
50 OPEN "I",#1,f$                                                  05A7
60 c=0:w=0:s=0:DEF FNat$(x,y)=CHR$(27)+"Y"+CHR$(32+x)+CHR$(32+y)   195A
70 WHILE NOT EOF(1):j$=i$:i$=INPUT$(1,1):c=c+1                     1435
80 IF flag=0 THEN PRINT FNat$ (1,1);c:GOTO 120 ELSE PRINT FNat$(1,8);c   1EED
90 IF j$="." AND i$<>"." OR i$="?" OR i$="!" OR i$=";" THEN s=s+1:w=w+1   17DF
100 IF j$=" " AND i$<>" " THEN w=w+1                               0CFA
110 a$(c)=i$                                                       02CE
120 WEND:CLOSE                                                     085C
130 IF flag=0 THEN DIM a$(c+1):flag=1:GOTO 50                      1248
```

The program announces itself, reads in the file and gets counting. The file must be in Ascii or the results (if any) will be very strange.

```
140 PRINT FNat$ (10,0)                                             08A2
150 PRINT:PRINT"No. of characters in file...";c                    17D4
160 PRINT:PRINT"No. of words in file...";w                         14F8
170 PRINT:PRINT"No. of sentences in file...";s                     1893
180 FOR z=1 TO c                                                   0714
190 v$=a$(z):PRINT FNat$ (1,15);z                                  0D31
200 wl=wl+1:IF ASC(v$)<48 THEN wl=wl-1: wl2=wl:wl=0 ELSE wl2=0     1C9B
210 IF wl2>7 THEN LET long=long+1                                  1092
220 NEXT z                                                         048E
230 PRINT FNat$ (20,0)                                             08A3
240 PRINT:PRINT"No. of words longer than 7 chars...";long          1B7D
250 fog=INT((w/s)+((long/w)*100))                                  0CF3
260 PRINT:PRINT"Fog index of this file...";fog                     193E
270 IF fog>50 THEN PRINT"Rather long-winded, superfluous, prolix,..."   2511
280 IF fog<20 THEN PRINT"The Sun will shine on you!"               1B72
290 PRINT:PRINT"Load another?"                                     1124
300 IF INKEY$="y" THEN RUN "foggy                                  0EFF
310 IF INKEY$="n" THEN END ELSE 300                                0E75
```

With everything counted the program prints out the results of its deliberations and at last you get the FOG index. You also get a bit of supplementary information and some kind of verdict on your text.

CHECK2

by Adrian Wilkins and Peter Crane

It's been a long time since we published the CHECK2 listing (November 1988 in fact) so we thought it was time to do it again. This program works by generating a four figure hex number based on the characters in each line of Basic.

To work Check2 must have an Ascii listing of the program. To get one of these SAVE your listing like this: SAVE "FILENAME.BAS",A The comma and the small a are essential. FILENAME can be anything you like up to eight letters. When you RUN the CHECK2 program it will ask for the name of this Ascii file. Just give it the name, you don't need to add the .BAS.

If you want to it's easy to alter the program to produce the numbers on screen instead of on the printer for a faster check. Change the LPRINT in line 160 for a PRINT. Long time readers will notice that this version is a bit shorter than the original listing. That's because it uses the printer defaults when printing. ■

```
10 INPUT "Program name ",prog$                          0F21
20 IF INSTR(prog$,".")=0 THEN prog$=prog$+".bas"        14D8
30 IF FIND$(prog$)="" THEN PRINT "Program not found":GOTO 10  1D64
40 OPEN "I",1,prog$                                     07B0
```

This section asks for a filename (it must be saved as Ascii), checks that it exists and then opens it.

```
50 WHILE NOT EOF(1)                                     0928
60 LINE INPUT #1,z$                                     07F2
70 y$=UPPER$(z$)                                        072E
80 check%=0 : j%=0                                      0631
90 FOR i% = 1 TO LEN(y$)                                098E
```

The program open's the WHILE – WEND loop that controls the program. Now the program reads in the file a line at a time using a FOR NEXT loop

```
100 y%=ASC(MID$(y$,i%,1)) : IF y%=32 GOTO 150           106A
110 IF y% <> &HFC GOTO 130                              0A39
120 PRINT "Save it in ASCII":END                        1069
130 j% = j% + 1                                         02BF
140 check% = check% + (y%-32) * (j% MOD 7 +1)           0DF9
150 NEXT                                                0421
```

Line 110 checks for Basic tokens in the file (commands such as PRINT are normally reduced to a single byte by Basic)

```
160 LPRINT z$;TAB(75);HEX$(check%,4)                    0F8D
170 WEND                                                03FB
180 CLOSE 1:CLOSE 2: PRINT "done":END                   1257
```

The line and line checksum are printed out and the WHILE loop hits the WEND. After the EOF (End Of File) is met the program finishes

THE LEARNING CURVE

This is the part of Listings Plus where we set out to de-mystify Basic. No more 'Here be monsters'; you won't find anything clever in this corner – ever. The idea behind Learning Curve is to provide a simple demonstration of how a particular command, or group of related commands, work.

Each month we will be printing a few simple lines of Basic and a great deal of explanation as to how it works. Eventually you should be able to find explanations for most of the commands with a simple example of their use.

This month we're going to illustrate one of the decision making commands of Basic, in fact the most important of them, the IF – THEN –ELSE sequence of commands. Let's take the IF – THEN section first, which can be used on its own; you don't have to include an ELSE command. The IF – THEN does just as its name implies, IF something is true THEN Basic does something, otherwise it doesn't. The simplest case would be similar to this:

10 A=10
20 IF A=10 THEN PRINT "A equals 10"
30 A=5
40 IF A=10 THEN PRINT "not again"

If you try this then the first message is printed but the second isn't. We can make this simpler using the ELSE command like so.

10 A=10
20 IF A=10 THEN PRINT "It's 10" ELSE PRINT "It isn't 10"

If you RUN this you'll find that the first message is printed while the second one isn't, just as you might suspect since the A does equal 10 in this program. Now edit line 10, make A=5 and RUN it again. This time the second message prints out but not the first.

Naturally you wouldn't actually use this command in such a contrived manner. The variable being tested would be altered either by the program itself or by the user. For example an input string might be tested thus:

10 INPUT "What's the word";A$
20 IF A$="wow" THEN PRINT "Correct"

The test needn't result in printing a message, it might be a test held in a password subroutine that stopped the program if it wasn't correct. As we've explained, IF – THEN is for making decisions.

You might see a complex looking line with IF – THEN – ELSE in it. These lines are made up of more than one command joined together with colons. Several lines of Basic can be condensed onto a single line using colons to separate them. The ELSE part of a line can be separated from the rest by other commands and colons, but the way it will act often isn't obvious. Try this line:

10 A=10
20 IF A=10 THEN PRINT "1":PRINT "2":ELSE PRINT "3":PRINT "4"

The sequence in line 20 looks complex but is in fact very simple. If A is equal to 10 then all of the commands before the ELSE are carried out. If A isn't equal to 10 then all of the commands after the ELSE are carried out.

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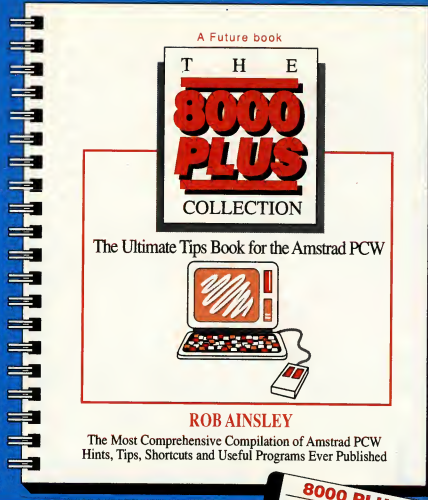

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TIP T Tips Q Questions OFFS

A multitudinous menagerie of merry machinations

At last those tips can be told along with a whole host of others that were well worth waiting for. Tipoffs offers a chance not just to help others, not just to see your name in print but also at the those wonderful warm feelings you get when you see a cheque come though the door. Send those tips to Tipoffs, Queen St, Bath, BA1 1EJ.

This month's loot goes to F R Peacock, for his chart and to Rosemary Rawlins for her tip on laying out minutes.

useful thing to have.

This flowchart is designed to show you how to access, at a glance, the various facilities offered by LocoFile. It shows the effects of the function keys when LocoFile is accessed from either a LocoScript document or from the disc management screen.

F R Peacock

Thorpe Bay
Essex

Dated program

The DATE program (required to set the PCW's internal clock for time and date stamping of files) is a bit awkward to use. For a start it requires you to enter the date in American – month, day, year – and on top of that it's a shade irritating having to go through the procedure twice – once for the date and again for the time.

The answer is to use SUBMIT, which can take several parameters in the form $1, $2 and so on. What you need is a submit file, let's call it DAY.SUB with the two lines:

DATE $2/$1/$3 $4:$5:00<

This will take the day the month and the year before re-arranging them in the order DATE.COM requires; it will then take the hours and minutes. The seconds are supplied.

So, you've started the PCW on 25th September 1989 at 11.45. As soon as the prompt comes up type: SUBMIT DAY 25 9 89 11 45 separating each number with a space. Press [RETURN] and it will all happen. There will be a message suggesting that you 'Strike any key to set time' but you can ignore that. You must have DATE.COM and SUBMIT.COM on your Start of Day disc.

Derek Mellulsh
Carnforth
Lancs

Listings

LocoFile treats each record as a complete page, so if your current paper type is A4 and each record is only three lines deep there is bound to be more than a little tree wastage when printing out a list of records. This applies even if you only wish to print out one or two items – exam results for instance.

The answer is to select

Head case

I recently purchased a Star LC10 for my PCW 9512. It works very well with Locoscript, but I am unable to get it to perform with Meridian's "Stockmarket". I wrote to Meridian, and they told me to type: DEVICE LST:=PAR which I had already done. I tried this with and without the various spacings with no success, only achieving a?

Both machines are connected. I have tried disconnecting the daisy wheel, but still no joy. My room wall is being damaged with my head banging.

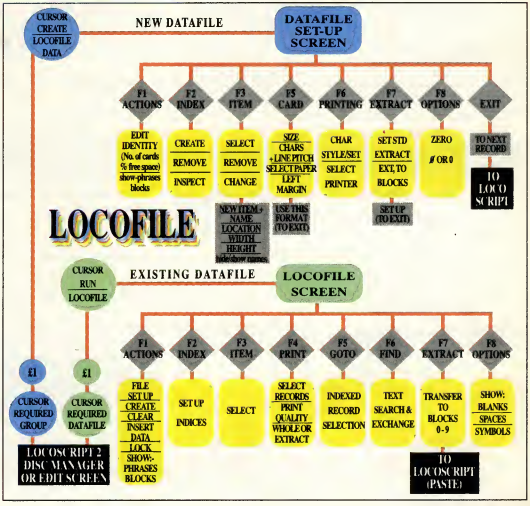
H B Brown
Leeds

8000 PLUS *The advice you've been given is quite correct and the command as printed above will work. You must have DEVICE.COM (from your CP/M disc) on the currently selected drive – the one named at the prompt. To send printer output to the RS232 interface the command would be: DEVICE LST:=SIO*

If these commands don't work then either you don't have DEVICE.COM available or your PCW is defunct.

Flowchart

It's usually easier to find your way around with a map than with a list of directions and a map of a software application is therefore a



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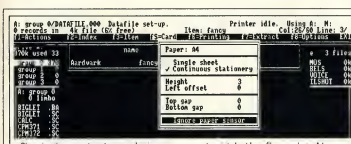


Changing the paper type temporarily gives an easy way to print short Locofile records on A4 paper.

Data file set up from the [f1] menu, press [f5] and cursor to the Select paper option. Now choose Show paper type and select Continuous stationery. You must now alter the height option to fit the size of card, in this case three lines deep. Set the top and bottom gaps to zero and set the Ignore paper sensor to off. Press [ENTER] and select Use paper type.

Don't forget to opt for 'paper intended for document' when you select the print option. Each record will still command a new page when you print them out but a lot of pages will fit onto one sheet of A4 now and as soon as the sheet finishes the printer will pause and wait for another. This tip works best if an exact number of records fit onto a single sheet.

Bruce Beaney
Ashford
Kent

Single action

Some, but not all, Mini Office selections can be made from menus with a single key press by typing the initial letter of the item. This lends itself to further automation of the start up sequence with a PROFILE.SUB file. For example, suppose you usually use the spreadsheet and always want to go to the directory of files held on drive B. The required sequence of commands is:

OFFICE[RETURN]
Select spreadsheet
Disc utilities
Select drive B
Exit
Load/save
Load data[RETURN]

You can't use S for Select drive because you'd get Sort files, but D will do instead. You cannot use E for Exit because you'd get Erase files, but a semi-colon will do. You can't use L for Load/save because it would List formulae but F will do instead.

So the PROFILE.SUB file you need will have the following lines in it:

OFFICE
<SDD:FL

The PROFILE.SUB file must be in Ascii and you need SUBMIT.COM and your .EMS file on the disc as well. A similar technique would would for other Mini Office Start of Day discs.

D P Leggat
Farnham
Surrey

Pin sharp

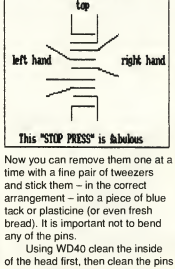
It's quite possible for the print head of the dot matrix printer to become gunged up, resulting in one or more of the pins not firing and a resultant white line across the text. The best solution is to take the printer head apart and clean it. This is a slightly worrying procedure since the parts inside are small and there are a lot of them, so take it slowly (allow at least half an hour).

Flip off the chromed retaining clip with a small flat bladed screwdriver and the print head will lift out, but be careful of the flat cable, you can't remove it and mustn't damage it.

Carefully unscrew and remove the four cross head retaining screws and put them in a dish. Take the print head apart slowly – or you'll end up with pins all over the floor.

You'll find a spring washer first, then a packing washer and finally a fibre washer (designed to keep the dirt out). Remove these and place them with the screws. All the pins should now be visible.

At this point it is essential to make a sketch of the pin layout so that you'll know where they all fit later. It should look something like this:



Now you can remove them one at a time with a fine pair of tweezers and stick them – in the correct arrangement – into a piece of blue tack or plasticine (or even fresh bread). It is important not to bend any of the pins.

Using WD40 clean the inside of the head first, then clean the pins one at a time as they are returned to position and finally re-assemble the head. Without using a ribbon print a page in High Quality to remove excess WD40 from the printhead and everything should now be fine.

James Casseldon
Torrenueva
Espana

Prints not come

Recently my PCW 8256 printer packed in and I thought it would be a good thing as I had some ready cash to buy a 24-pin printer.

So, after consulting back numbers of 8000 Plus I eventually decided on an NEC P2200 from Locomotive Software. This arrived tested out by the firm and was working perfectly with Locoscript within 5 minutes. But I cannot get it to print with other programs, notably Cracker and programs written in Basic.

G F Dixon
Southport
Lancs

8000 PLUS *The NEC2200 will obey the Epson printer command set and CP/M will drive it perfectly well on the 8000 series. You need the DEVICE.COM program from your CP/M discs and must redirect printer output to the RS232/Centronics interface with the command:*

DEVICE LST:=SIO

before running any other programs. You can put this command into your PROFILE.SUB file but make sure DEVICE.COM is on your Start of Day disc.

Statistically speaking

I need to do some statistical work using multiple linear regression; as yet I have been unable to find a software house that has the package (multiple linear regression) available. Do you have any suggestions as to who might have one?

Philip A Dobons
Sheffield

8000 PLUS *Try SC Coleman on 0530 415919. They do a whole range of statistical packages and will almost certainly be able to help.*

Off centre

Whilst I am entirely happy with the workings of my machine, there is one peculiarity which I find somewhat annoying. The screen display is off centre and slopes downwards quite considerably to the left, and is more apparent at the top of the screen where the management section is shown. Perhaps you can advise me whether there is a simple solution.

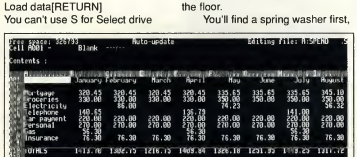
G Lewis
Nazeing
Essex

8000 PLUS *You may remember the days when televisions had a whole row of little knobs at the back to adjust every aspect of the screen. They're still there of course but now they're inside on the circuit boards. Computer screens have all the same adjustments (near enough) but only two are available from outside; the horizontal and vertical hold, accessible from the back. Try these, they may do some good. If they don't you need a television engineer to open it up and work on it. Don't do it yourself as the voltages are extremely high and very dangerous.*

Supercalc 2

I have recently purchased a copy of Supercalc 2 and have found your articles in 8000 Plus a useful extension of the manual supplied. I found that I had to amend the Profile.Sub in order to get it to work on a 9512 oy adding the line <M:=a:SC8256.*[RO] and changing the last line to SC8256.

I was surprised to find that there is only 31K of memory left for the Spreadsheet.



It's perfectly possible to run Mini Office from a PROFILE.SUB file all the way to here.

Use of SHOW.COM indicates that there should be 300K spare on drive M. Can you tell me if there is any way to increase the amount of memory available for use?

J Colin Herd
Arbroath

8000 PLUS *It's a fair cop, guv. There are various versions of SuperCalc 2 floating around and a large number of long time users have generic CP/M versions rather than the version tailored for the PCW machines. The generic versions are called SC2, hence the confusion. In fact the editor is still using the original SuperCalc – without the 2, we can't imagine where he got it.*

SuperCalc 2 only works in the TPA and knows nothing about drive M, it's just another disc drive as far as SuperCalc is concerned. You can't get a spreadsheet bigger than 31k with it. Only Mini Office of those spreadsheets currently available will use the RAM drive to build large spreadsheets (up to 300k).

C this drive

I'm a Patient(sic) man, but this is ridiculous. Telling poor old Duncan Brown (Tipoffs August 1989) that he can't have a logical 'C' drive. Course he can, and it's useful as well.

You need to get into the CP/M system file J14CPM3.EMS with SID if that's all you've got or else a proper sector editor like PATCH or SUPERZAP from the public domain. Go to address 6363 where there is a string of bytes 2E BD 51 BD followed by lots of 00 bytes. If it's not at this address on your version of CP/M then get the editor to search for this string.

To have A: drive doubling up as a logical C: drive simply add two bytes to the above string (ie at address 6367) 2E BD in place of a couple of 00 bytes. To have A: doubling up as a logical B: drive and the existing B: drive as C: then alter the byte at address 6365 to 2E and add 51 BD at address 6367. Re-boot and you're away.

Mick Reed
Angmering
Sussex.

```
A>sid m:j14cpm3.ems
CP/M 3 SID   Version 3.0
NEXT MODE  PC  END
#100 8100 0100 DAFF
#g6363
#6363: 2E BD 51 BD 00 00 00 00 00 00 00 00 00 00 00 00  .0.........
#6373: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00  ................
#6383: FD F5 08 F5 21 08 F8 39 39 00 31 F8 E5 21 00 00  ....!..99.1..!..
#6393: 39 22 F6 F8 21 00 00 39 22 F8 F8 21 00 00 39 22  9"..!..9"..!..9"
#63A3: FA F8 21 00 00 39 22 FC F8 21 00 00 39 22 FE F8  ..!..9"..!..9"..
#63B3: F9 F1 F1 F5 7B 92 FE 1F D2 C6 F8 7B 93 FE 1F D2  ....{......{....
#63C3: D6 F8 F1 F5 7A 94 FE 1F D2 E6 F8 7A 95 FE 1F D2  ....z......z....
#63D3: F6 F8 21 BD 51 39 00 21 C9 CD 01 FE 39 00 21 4E  ..!.Q9.!....9.!N
#63E3: FE C5 CD C4 FE 18 00 CD C9 CD 18 00 CD 01 FE 18  ................
#63F3: 00 CD BC FE 18 00 CD 18 00 2A CE F8 22 03 00 3E  .........*..."..>
#6403: 00 32 04 00 E5 03 0C FE 0E C2 0F 01 C3 00 00 3F  .2.............?
#6413: 87 C9 D9 C6 86 67 6F C5 3E FF 32 A1 FE AF E5 32  .....go.>.2....2
#6423:
#g6367
#6367 00 2E
#6368 00 bd
#6369 00 51
#ctrl-w
#save 3 m:sms 0100 daff
0100h record(s) written.
#^C
```

This is how to give yourself a drive C. The hex dump is just to illustrate what normally lives there.

Sort this out

My computer was purchased with the underlying thought that, as I have a number of pieces of music on cassette, I would be able to put about 300 titles, (printed as title.composer.cassette no) on to a sequential file, and thence use an alphabetical sort based on titles.

I have been very disappointed to find that no alphabetical sort program is given in the manual and I am writing to you to ascertain if you would give me the information I need, viz. to program an alpha sort, and to incorporate in that program a merge of the data from a sequential file. I would have thought that at some period every novice reader would find such a program useful.

V I Harris
Birmingham

8000 PLUS *That seems a reasonable enough request to us. This is a stripped down Sheli/Metzner sort from issue 12. We will be carrying some articles on sorts soon. This one asks for the name of a file containing an unsorted list of lines – which must end in carriage returns and be less than 256 characters long – and writes them out to a second named file in alphabetical order. Please forgive the appalling layout of the program but space and time both press. We leave a pretty layout and more informative messages as an exercise for the noble reader.*

```
1 REM Shell/Metzner sort from file
2 REM to file via an array in memory
10 DIM w$(500)
20 INPUT "name of file to read ",in$
30 INPUT "name of file to write ",out$
40 OPEN "I",1,in$:OPEN "O",2,out$
50 LINE INPUT #1,line$
60 i%=1:w$(1)=line$
70 WHILE NOT EOF(1): LINE INPUT #1,line$
80 i%=i%+1:w$(i%)=line$:WEND
90 k%=i%:WHILE k%<>0:k%=k%\2:FOR i%=0 TO k%-k%:WEND
100 WHILE k%<>0:k%=k%\2:FOR i%=0 TO k%-k%:j%=i%+k%
110 FOR m%=1 TO i%:n%=m%
120 p%=n%+k%
130 IF UPPER$(w$(p%))>UPPER$(w$(n%)) THEN 160
140 SWAP w$(p%),w$(n%)
150 n%=n%-k%:IF n%>0 AND k%>0 THEN 120
160 NEXT:WEND
170 FOR k%=1 TO i%
180 PRINT #2,w$(k%):NEXT
190 CLOSE
```

Definitely Loco

After reading the Locofile manual I managed to set up a LocoFile database file with relatively little trouble. Then I wanted to print out the address labels on a three across format, (as I do on the "Dataflow" system, which is very easy to use). I would have thought that I could produce the labels directly from LocoFile, but no, you have to transfer the data to LocoMail and then develop your own program for the label configuration, and then mix the two together. Can somebody please help?

John P Watson
Sheffield

8000 PLUS *Printing labels three across is a simple enough to do in LocoMail alone. You simply set up a loop to run through the data in batches of three, concatenate the relevant parts of the address lines together to produce a single long line which is then printed out, as shown on the screen dump. You need a LocoMail datafile with a record pattern defining the name (which can be broken into first and last names) and the address, which should be broken down into lines – address1, address2 and so on. Let's assume you have just a name line and three address lines. The program to print these out would be as below.*

You must also define a paper type for the labels you are using with the correct length so that LocoScript will treat each label as a page. Now it's just a matter of setting your tabs correctly so that each section of the final compound name and address lines hit the labels in the right place.

We eagerly await the rush of printouts showing how to do the same thing using LocoFile and LocoMail combined.

```
ANUSCRP/ADDRESS .LST  Editing
n    F1@  LS1   CR=0
Actions    F2=Layout      F3=Stu
.....+....1....+....2....+....3
          name#
          address1#
          address2#
          address3#

          Mr J G Smithe
          589 New Str
          Wintlesham#
          Sussex#

          Mr F W Tombe#
          The Gables#
          Elvington Rd#
          Cumbria#

          Dr H Quentine#
          45 Breen Str
          New Bondwell#
          Indigo#

          Mr D D Whetherall#
          4 Black Stone#
          The Estate#
          Vernillen#

          Mr I M A Dronge#
          10 Harry Line Grove#
          Bath#
```

This shows a simple data file in LocoMail format for use swith a label printing routine.

```
@/LABELS  .MAS  Editing text.
  1  F1@   LS1   CR=0   LF6
Actions    F2=Layout      F3=Style      F4=Size
.....+....1....+....2....+....3....+....4....+....5
@(Layout)%
(@Mail)@name1=@name1
@add1="":@add2="":@add3=""
@n="    "
@spaces=" "
@loop1="@for(i,1,3,@name1=@name1+@n)"
@add1=@add1+@address1@tab/
@add2=@add2+@address2@tab/
@add3=@add3+@address3@tab/
@count=@count+1/3
@if(@count=1,@loop1)
@count=3/
@count=@loop/
@name1[-@tail]#
(@Mail)@name1[-@tail]#
(@Mail)@add1[-@tail]#
(@Mail)@add2[-@tail]#
@-(@Mail)#
```

It's fairly simple to print out labels using a loop in LocoMail as you can see from this listing.

```
Mr J G Smith          Mr F W Tombe          Dr H Quentin
589 New St            The Gables            45 Breen St
Wintlesham            Elvington Rd          New Bondwell
Sussex                Cumbria               Indigo

Mr D D Whetherall     Mr I M A Dronge       Mr I M A Dronge
4 Black Stone         10 Harry Line Grove   10 Harry Line Grove
The Estate            Bath                  Bath
Vernillen             Avon                  Avon
```

Labels printed out three across. Notice that the final one repeats to fill the row completely.

No can do

Please could you tell me how to increase/decrease the volume/ brightness/ contrast on my PCW9512 by typing on the keyboard? Also, can you tell me where I can buy a colour printer that can be controlled in BASIC?

James Andrews
Devon

8000 PLUS *Any colour printer can be controlled from Basic simply by sending the requisite control codes.*

The volume is fixed, being a piezoelectric crystal device. Contrast and brightness are not functions of software but controlled directly by voltage levels. There is no way to affect them in software.

Action woman

In minutes and reports you can insert the word ACTION as a heading in the right hand margin and the name of the person or persons to carry out the action by the following method:

(Layout)
(RAlign)
(Layout)
(+Just)

The first layout is used to widen the right hand margin –via [f2] and the New layout menu – the Right align inserts ACTION or the name of the person to carry it out into the now widened margin, the second layout restores the original margin and the Justification makes everything tidy.

The margin widening layout must be in the line above the word ACTION and later on it must be at the end of the line

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The control codes to alter the layout are best done after the text has been typed in.

```
                Minutes of the Aardvark soufflé society
                ---------------------------------------

                                                          ACTION

It has been noted that Albert has been arrested yet again while
attempting to stuff an Ardvark down his trouser leg in Sainsburies. It
is the opinion of the committee that he should forfeit both of his
Tangerine twist fancies.
                                                          Gridley

There has been a great deal of concern regarding illegal spraying of
anything up to three fetlocks in an attempt to pass off common Gumfoots
as the much rarer Lemon Sliders. Judges Rules clearly state that any
member caught at this will have the offending Aardvarks stamped into the
ground. Committee feel this must stop.                    Lumden

Murray's latest fancy has been found in a state of
```

The final printout showing how the layout codes can give a really professional finish to minutes

above the name of the person to carry out the action. The margin narrowing layout must be immediately after the ACTION or name and on the same line.

If you want the text justified the (+Just) code must be below the layout codes or they are nullified.

Make phrases of the two layouts to save keystrokes and ensure that the margins are kept to the correct widths.

Finally, it is much easier to enter the codes after the text has been written and before printing out the document.

Rosemary Rawlins
High Wycombe
Bucks

No go

I have a Seagate Model ST-225 20Mb hard disk and a Lonshine LCWS-6210D hard disk controller and would like to know if either of these can be made to work with the PCW.

About six months ago I upgraded my PCW 8256 with an FD4 second drive and 512k memory expansion. The machine believes that there is 368K available but though the first few operations (using the M drive) are executed correctly thereafter the files are corrupted. The company who sold them and the FD4 say that they believe it to be a fault in the 2nd drive. Any comments?

Finally, at about the same time as I upgraded my machine I also bought a copy of 'Desktop Publisher' with AMX mouse and a copy of 'MasterPack'. However, the hardware for both devices failed to work and the company from whom they were purchased were very unhelpful. I am not particularly worried about the latter issue but I wonder if the mouse can be made to work through the SCA interface?

Dr T Collen
Pirbright
Surrey

8000 PLUS Getting the hard disc to work with the PCW is not practical, sell it. The file corruption problem sounds like a memory error. All service engineers have a device for checking memory – give one a call. Mice need to be connected to the expansion bus. SM Engineering do an interface with a through bus and can also alter some interfaces from other manufacturers . Ring them on 0323 766262.

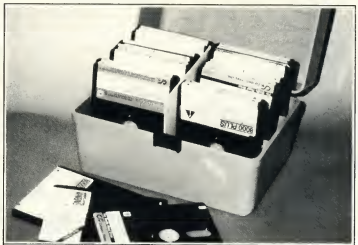
In the box

Was this genius or blindingly obvious to all but me? For more than a dozen or so disks, two parallel front to back rows are more convenient than one long one. So a 6" x 4" card index box becomes the ideal storage medium?

W H Smith have a plastic one in classic medium grey for £2 or so. It takes up to thirty-two disks, or six more without the slip covers, and has internal dividers that hold the disks upright. Using a piece of stiff card will help keep the rows neatly apart.

The box looks better without the tacky label on the lid, though the white spirit I used to remove the glue left a slight mark. If there is space left over, index cards are handy for notes about what is on the disks and much else.

A M A Soulloti
London



Cheap and effective. A simple card index box from WH Smith can solve those disc storage problems

German factories where different consumer laws apply) the part you need is now obtainable.

The part number is 177999, the price is nothing, it is free on request and the telephone number to ring is 0279 454546, ask for the spares department.

The object itself consists of a Centronics type connector, 50 way, connected by about 4.5" of ribbon cable to a 50 way IDC edge connector with a separate back to back edge connector made of ordinary circuit board.

Dr. J D Baines
Windsor

New ends

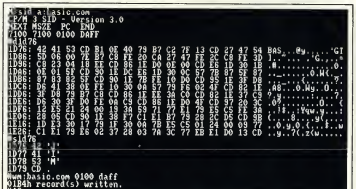
You can personalise your version of Basic by altering the default filetype that Basic assigns to programs from BAS to any three letters or characters you like – your initials maybe? To alter it temporarily, until Basic is next loaded, type in and run the short Basic listing. To alter it permanently use SID as shown.

```
10 Input"Enter three letters ";a$
20 for p=1 to 3
30 poke 7541+p,asc(mid$(a$,p,1))
40 next
```

David Patient
Bath

Turn i tron

Before you RUN a troublesome program type TRON[RETURN] and as each line is executed the line numbers will be displayed so



Personalise your copy of Basic by altering the default filetype Add your initials instead perhaps?

Spare part surgery

If anyone has been having trouble because they bought a PCW with a socket on the back instead of a simple board edge connector (this applies to those machines that Amstrad imported from their

that you can tell immediately where things are going wrong. Press [STOP] to stop your program once you've spotted the problem. When you've finished type TROFF to turn it off again.

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Cavendish
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These pages provide a guide to the best software around for the Amstrad PCW. Published in three monthly parts, this time it's the turn of Spreadsheets, Games and Graphics to face the ultimate test. We've set out to test every piece of software we could lay our hands on, and to give you enough information to decide which program is the one you might be looking for.

The selection isn't comprehensive, but the software listed here represents what we think is the best of that currently available. As well as a brief summary of what they do, there are the main Plus and Minus points for each program - Pluses have a ▲ by them, Minuses a ▼.

Most of the packages mentioned throughout this guide should run on all three models of the PCW - unless, of course, we have stated otherwise.

Spreadsheets

If a database replaces an address book, then a spreadsheet replaces the back of an old envelope. It is really an electronic piece of paper which allows you to jot down numbers, juggle them around and analyse the cost benefits of a situation. Vital for businesses, spreadsheets can be useful to home users too: if you want a bank loan you will find that showing your bank manager a spreadsheet print-out of your living expenses answers a lot of questions!

A typical spreadsheet has a grid of rows and columns. This grid forms a screenful of cells identified by their column and row numbers, e.g. A3, K36 etc. Each cell can contain a simple number, some text to make the page easier to read, or a formula telling the spreadsheet to work out a number using values from elsewhere. The power of spreadsheets is in this last category, formulae. You can make a cell's value depend on the value of cells above it, or to the left of it, and this value is then automatically updated if changes are made to the other cells.

So how do you choose between the various spreadsheets? One difference is sheet size, i.e. the number of cells you are allowed to work with. You'll need a few hundred for home use, and 1000 or more for business use. Another area is the range of formulae that you can use – all spreadsheets allow simple column and row totalling, but with some you can get complex statistical analyses too. As with all software, think very carefully what you will need before choosing.

Mini Office Professional Plus

£49.95 • Database Software • 0625 878888

Mini Office is a suite of five integrated programs – database, word processor, graphics module, comms package, and a very good spreadsheet. Broadly similar to SuperCalc in operation with usuel features of auto or manual recalculation, replicating of rows/columns, powerful range of arithmetic functions etc. Printout is a strong point - rows/columns can be put into italic/bold etc, and prints draft, NLQ or even sideways! Can't sort and can't just save data or structure of a spreadsheet, but maximum size of spreadsheet is claimed to be 320k. You can use the data from a spreadsheet in the graphics module directly. The manual is, however, pretty useless.

PLUSES • MINUSES

▲ Good, full-featured easy to use spreadsheet
▲ Prints in draft, NLQ or even sideways
▲ Maximum size of spreadsheet 320k
▲ Can transfer data directly to graphics module
▲ Can drive 24-pin printouts
▼ 'Save' options not as versatile as SuperCalc

Cracker turbo

£49.95 • Paperback Software • 0245 265017

A spreadsheet designed with advanced calculating power firmly in mind, including statistical functions. The screen layout is totally defined by the user, and cell value calculations can almost be full programs, e.g DO ... WHILE. It might prove too complex if all you want is simple spreadsheet operations. The screen messages are very helpful though. Turbo is claimed to be faster than Cracker 2 though sometimes isn't noticeably so.

PLUSES • MINUSES

Powerful

▲ Can cope with very complex formulae
▲ Flexible screen format defined by the user
▲ On-screen prompts are very clear
▲ Graphs/charts can be automatically produced
▼ Documentation is large, but obscure and confusing
▼ You've got to do a lot of work just to get started
▼ Very complex for quick, simple applications
▼ Needs some programming skills to get the most out of it
▼ Free workspace is on the small side (17k) although memory is used efficiently

SuperCalc 2

£49.95 • Amsoft/Sorcim • 091 567 3395

The best selling spreadsheet, officially endorsed by Amstrad. SuperCalc 2 is broadly similar to ScratchPad Plus , and at least as effective, but it has a smaller workspace and is less flexible about the allowed spreadsheet dimensions. You can store sequences of commands for repetitive calculations.

PLUSES • MINUSES

Best general buy

▲ Excellent manual – sections for beginners and experts.
▲ Stores commands to run from files
▲ "Data Interchanger" allows you to transfer spreadsheet data to other applications
▲ Comprehensive range of calculation functions available
▲ Screen can be split into 2 windows
▼ Spreadsheet is limited by memory size
▼ No graphical output facilities

First Calc

£29.95 • Minerva Systems • 0392 437756

Touted as a quick and simple to use program for the beginner, this is nevertheless quite a powerful spreadsheet, with a large capacity, ability to replicate formulae, export etc. Really it's not vastly more user-friendly than the rest but a good value package all the same.

PLUSES • MINUSES

Easy to use

▲ A lot of program for the money
▲ Good tutorials with demo files
▲ Simple to use but reasonably sophisticated
▼ Not much easier to use then more powerful packages
▼ Program is limited by the memory capacity of the PCW (300 - 400 filled cells)

Pocket CalcStar

£39.95 • Davis Rubin Associates • 0386 853610

A fairly traditional spreadsheet but with a few surprising features. It's not particularly large or fast, but is attractively priced and has all the basic functions. Can form part of an integrated system with the other Pocket products. A safe buy for the first-time user, and the documentation is up to the usual high MicroPro standards.

PLUSES • MINUSES

▲ Good range of mathematical calculation functions.
▲ Good documentation – sections for beginners and reference.
▲ You can preset a course of cells to visit, for form filling.
▲ Can be integrated with other Pocket products, eg ReportSter
▼ Screen size is very small – 10-15 spreadsheet rows,.
▼ No auto-recalculate facility
▼ It's not very fast
▼ You can't type heading text etc. over adjacent columns

Graphics

You can use a graphics package to create and store diagrams and drawings on disc, to be amended, adjusted or printed out at will.

There are three main types of graphics package: art, technical drawing and

GOOD SOFTWARE GUIDE

graph plotting programs. In art packages the emphasis is on designs and pictures, with freehand drawing facilities, a selection of pretty text fonts and a variety of patterns to fill areas with. These are made much more effective and easier to use if you have a mouse.

Technical drawing packages concentrate on shapes, such as squares and polygons, lines and labels. Finally graph plotters will take your data and turn them into bar charts, pie charts and so on. 9512 owners will have to buy a dot matrix printer to do all this, of course.

Lightpen/ Mouse art

£79.95 or £129.95 • Electric Studio • 0462 834864

Ostensibly you are buying a piece of hardware — a light pen, or a mouse, that can be used with many PCW graphics programs, like DR Draw. In practice, its main use is with the software that comes with it, a very good picture drawing package. You can freehand draw, get airbrush effects, create polygons and circles, and move blocks of pixels. Great fun.

PLUSES • MINUSES

- ▲ Light pen hardware is a simple plug-in module
- ▲ Can use freehand pen or cursor keys for accuracy
- ▲ Menu selections are easy to understand
- ▲ Full range of functions for area filling, shading and spraying
- ▲ Blocks of pixels can be moved and copied
- ▼ You would need to know your way around CP/M to use the lightpen itself with other graphics programs
- ▼ Items on the screen are purely pixels, not distinct elements
- ▼ No positioning of items by numeric co-ordinates for accuracy.

Master Paint

£19.95 • Database Software• 0625 878888

A WIMP environment graphics package (windows, icons, menus, and pointer) which will run with Kempston, AMX or Electric Studio mice. Usual facilities for drawing curved or straight lines, polygons, boxes, circles and ellipses, and a host of 'fill' patters. 'Undo' function and eraser facility, plus the ability to zoom in on a part of the picture.

PLUSES • MINUSES

- ▲ WIMP environment makes it easy to use
- ▲ Zoom function lets you fine-tune your pictures
- ▲ Good range of effects
- ▲ Undo and erase facilities
- ▼ Text fonts are boring
- ▼ Can't move large blocks with the copy function

MasterScan

£69.95 • Database Software• 0625 878888

A device which clips on to your printer head and scans pictures, sending the digitised result to disc. You can then use the pictures in desktop publications or in other graphics packages, such as Master Paint. Very useful for newsletter production but the claims for Master Scan as a low-cost fax machine are grandiose - the quality of scanned text is poor if the text is anything less than headline size.

PLUSES • MINUSES

Powerful

- ▲ Simple method of getting good digitised graphics
- ▲ Suitable for all desktop publishing programs
- ▲ Contrast control useful
- ▼ Quality of scanned text is bad – no good for faxes
- ▼ Problems with illustrations containing lots of grey

Postafont

£9.95 • Independent User Group • 0242 224340

It's easy to ring the changes with the five fonts provided on this poster program because you can have either solid or hollow characters in one of six patterns. Very good value for money but best for the occasional poster producer.

PLUSES • MINUSES

- ▲ Its really good value for money.
- ▲ You can freely mix fonts and styles
- ▼ The print commands are contained in a file which you have to create yourself.
- ▼ No warning if the poster is too big for the paper.

Lightning BASIC

£24.95 • CP Software • 0993 823463

A very clever add-on to normal Basic which works on three levels. The first contains all the everyday commands, whilst the second and third levels are used for designing icons, characters and sprites. There is something in it or everyone, whether an experienced Basic programmer or a beginner.

PLUSES • MINUSES

Powerful

- ▲ Simple and easy to use
- ▲ Makes simple Basic programs look really professional
- ▲ Good fun to use
- ▼ Documentation can be unclear
- ▼ Printed output is coarse draft quality
- ▼ Can only cope with simple graphics

Complement Fonts & Borders

£12.50 • Dragonfly Designs • N/A

Although it can be used with all the main DTP packages, this latest complement disc was designed to work alongside Stop Press. The 11 fonts supplied on the disc show consistent good design and artistic flair and are easily loaded.

PLUSES • MINUSES

- ▲ The fonts provide a very professional finish.
- ▲ It is possible to rotate and reverse elements.
- ▲ Very user-friendly.
- ▼ Setting up borders tends to be difficult and time-consuming.
- ▼ Printed output could be better (but it is still above average).

Signwriter

£29.95 • Wight Scientific • 01 858 2699

Offers the widest range of features of any of the poster printing programs. Signwriter provides a range of 20 fonts, some of them very imaginative. Ideal for posters.

PLUSES -MINUSES

- ▲ You can redesign fonts and design your own symbols.
- ▲ A wide ranges of interesting fonts is available
- ▼ Not very user-friendly.
- ▼ Font design is slow.

Stop Press

£49.95 • AMS • 0625 878888

Though touted as a DTP program, Stop Press is an excellent graphics package. Can present data in the form of graphs, pie charts etc., and has the usual range of facilities to draw and fill triangles, boxes and so on plus a very good 'zoom' option which lets you examine the effect of changes in great detail.

PLUSES • MINUSES

A general buy

- ▲ Good graph drawing facilities
- ▲ Can design your own fonts for patterns
- ▲ Good range of options, which you can modify if you wish
- ▲ Can superimpose one image on another
- ▲ Works with AMX and Kempston mice
- ▲ Is also a good DTP package
- ▼ Undoing wrongly placed text is difficult

AYE PLUS

£24.95 • CP Software • 0993 823463

The full title is 'All you ever wanted to know about graphics, the universe and everything on PCW 8256/8512 ... but were afraid to ask PLUS'. Phew. A wide range of little programs to do graphic things on the PCW like smooth scrolling, defining windows, moving sprites around. The programs are written in assembler, with the source code provided if you want to see how to program them for yourself and adapt the routines.

PLUSES • MINUSES

- ▲ Wide range of useful functions
- ▲ Can be used from BASIC, machine code, or other language
- ▲ The assembler source code is supplied
- ▲ Inexpensive
- ▲ Good manual
- ▲ CP don't mind you using their routines in programs you sell
- ▼ A bit long-winded to use from BASIC
- ▼ No easy way of loading just the routines you want

VIDI PCW

£79.95 • Rombo Productions • 0506 414631

A very similar package to the Electric Studio digitiser, not much to choose between the two. Rombo's works with the Fleet Street Editor, Electric Studio's with Newsdesk International.

PLUSES • MINUSES

Easy to use

- ▲ Text can be inserted from within the program
- ▲ 16 levels of shading
- ▲ Can print images to screen in defined order and time apart.
- ▼ Unhelpful manual

Video Digitiser

£99.95 • Electric Studio • 0462 834864

A black box which plugs onto the expansion port at the back of the PCW, into which you put a video camera or video recorder. It will then 'digitise' the picture it receives and display it on the screen. The result can be used as a normal graphic in any of the desktop publishing packages and can be edited, cut, etc.

PLUSES • MINUSES

- ▲ Automatically picks a good contrast level for the display
- ▲ Can store pictures for Light Pen or Mouse to work on later
- ▲ Can print out on a full A4 page
- ▼ Can't take simple TV signals – video only
- ▼ When used in a desktop publisaction, won't be as good as screened photographs

Academy (Tau Ceti II)

£19.95 • CRL (01 533 2918) • 8000s only

The sequel to Tau Ceti. To qualify as an advenced skimmer pilot, you must complete successfully 20 missions. Blast enemy craft with your personelly designed skimmer.

GRAPHICS	**4/5**	**ADDICTIVENESS**	**5/5**
LASTING APPEAL	**4/5**	**VALUE VERDICT**	**5/5**

Armageddon man

£19.99 • Martech (0323 768456) • 8000s only

As Supreme Commander and world leader you have to prevent nuclear war from breaking out by preserving good diplomatic relations between the 16 member countries of the UNN. Nip conflict in the bud by providing sufficient food and resources.

GRAPHICS	**4/5**	**ADDICTIVENESS**	**4/5**
LASTING APPEAL	**4/5**	**VALUE VERDICT**	**4/5**

Backgammon

£15.95 • CP Software (0993 823463) • All PCWs

A fairly good implementation of the gambling boerd-game.

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C5 White Gummed 6 3/4 x 9	500	13.95
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9512 Extra Ink	4.95	8.95	16.95
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3 1/2 x 15/16	7.31	32.32
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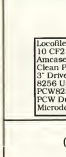

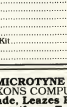

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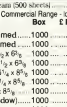

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Playing speed is easily alterable and is totelly unrelated to the games level of skill control.

RANGE OF FEATURES	4/5	**STRENGTH OF PLAY**	3/5
GRAPHICS	4/5	**DOCUMENTATION**	3/5

Batman

£14.95 • Ocean (061-832 6633) • 8000s only

3-D animated graphics as you guide Batman around Gotham City, looking for hidden parts of the Batcraft. Good range of hazards, and even a tune!

GRAPHICS	5/5	**ADDICTIVENESS**	5/5
LASTING APPEAL	4/5	**VALUE VERDICT**	5/5

Blackstar

£14.95 • CRL (01-533 2918) • 8000s only

A traditional text edventure with large playing area. You explore Castle Blackstar in search of a power orb.

ATMOSPHERE	4/5	**INTERACTION**	2/5
CHALLENGE	4/5	**VALUE VERDICT**	4/5

Bounder

£13.95 • Gremlin (0742 753423) • 8000s only

A graphics bouncing-ball game . You have to direct the ball over a treacherous network of squares & hexagons. Persevere – or use the cheat mode!

GRAPHICS	4/5	**ADDICTIVENESS**	3/5
LASTING APPEAL	3/5	**VALUE VERDICT**	4/5

Brian Clough's Fortunes

£17.95 • CDS (0302 21134) • All PCWs

A cross between Monopoly end Football Manager, combining board and PCW. Go for league and cup success – but keep the bank manager happy too!

GRAPHICS	2/5	**ADDICTIVENESS**	4/5
LASTING APPEAL	4/5	**VALUE VERDICT**	4/5

Bridge Player 2000

£19.95 • CP Software (0993 823463) • All PCWs

A few of the bids it makes seem a little strange, but as bridge programs on computers go this is pretty good. Claims not to cheat, even though it deals!

GRAPHICS	3/5	**STRENGTH OF PLAY**	3/5
LASTING APPEAL	4/5	**VALUE VERDICT**	3/5

Catch 23

£19.99 • Martech (0323 768456) • All PCWs

A game of exploration on an inhospitable island which has been taken over by the military. Your task is to locate the 'most secret military complex on earth' and escape with the design of their most deadly weapon.

GRAPHICS	4/5	**ADDICTIVENESS**	4/5
LASTING APPEAL	4/5	**VALUE VERDICT**	4/5

Classic Games

£19.95 • CP Software (0993 823463) • All PCWs

A compilation of classic 'thinking' games on one disc: Clock Chess, Bridge Pleyer, Backgammon and Draughts. Excellent value for money.

Clock Chess 89

£19.95 • CP Software (0993 823463) • All PCWs

One of the better PCW chess programs. You can alter the level of play by specifying a time limit. Capable of very strong play and the 3D graphics are excellent.

GRAPHICS	4/5	**STRENGTH OF PLAY**	5/5
RANGE OF FEATURES	5/5	**VALUE VERDICT**	5/5

Colossus Chess 4.0

£15.95 • CDS Software (0302 21134) • All PCWs

A very strong chess game which manages to use time which you spend thinking to plan its strategy. Bags of features, including blindfold games.

GRAPHICS	3/5	**STRENGTH OF PLAY**	3/5
LASTING APPEAL	4/5	**VALUE VERDICT**	3/5

Corruption

£24.95 • Rainbird (01 240 8838) • All PCWs

Takes you into the heady world of stocks and shares where making money is what it's all about. There's something rotten in the state of Scott Electronics and it's up to you to find out what.

ATMOSPHERE	4/5	**INTERACTION**	5/5
CHALLENGE	4/5	**VALUE VERDICT**	5/5

Cyrus II Chess

£15.95 • Amsoft (0277 230222) • All PCWs

Chess game with a stunningly detailed 3-D display. The play is quite strong, with several handy features like allowing you to take back a move.

GRAPHICS	5/5	**STRENGTH OF PLAY**	3/5
LASTING APPEAL	4/5	**VALUE VERDICT**	4/5

Double t Patience

£17.95 • Thurston Techniques (0395 277496) • All PCWs

Six well-known card games (from Poker Patience to Pairs) to be played either elone or ageinst the computer.

GRAPHICS	2/5	**ADDICTIVENESS**	5/5
LASTING APPEAL	4/5	**VALUE VERDICT**	3/5

Fish

£24.99 • Rainbird (01 240 8838) • All PCWs

The underwater world of Hydropolis is under threat from a gang of interdimensional enarchists. They've stolen a focus wheel and dismentled it; your job is to get it back. Excellent grephics.

ATMOSPHERE	5/5	**INTERACTION**	4/5
CHALLENGE	4/5	**VALUE VERDICT**	5/5

Gnome Ranger

£14.95 • Level 9 (0344 487597) • All PCWs

You follow the adventures of Ingrid Bottomlow, the intrepid gnome, through e fairy tale lendscape full of compelling puzzles. Humorous and rether quaint.

ATMOSPHERE	3/5	**INTERACTION**	3/5
CHALLENGE	3/5	**VALUE VERDICT**	4/5

Guild of Thieves

£24.95 • Rainbird (01-240 8838) • 8000s only

To join the select Guild of Thieves in Kerovnia, you first heve to show your worth by fleecing an island of all its treasures. An excellent adventure!

ATMOSPHERE	5/5	**INTERACTION**	4/5
CHALLENGE	4/5	**VALUE VERDICT**	5/5

Head Coach

£15.95 • Coda (01-789 9551) • All PCWs

You coach an American Football team, picking players end deciding tactics against reel NFL teams and players. Incredibly detailed simulation – a must for NFL fans!

ATMOSPHERE	4/5	**INTERACTION**	5/5
CHALLENGE	4/5	**VALUE VERDICT**	4/5

Head Over Heels

£14.95 • Ocean (061 832 6633) • 8000s only

A superlative, compulsive 3D arcade adventure where you control either Head or Heels. Escape from Castle Blacktooth and free the Empire's enslaved planets.

GRAPHICS	5/5	**ADDICTIVENESS**	5/5
LASTING APPEAL	5/5	**VALUE VERDICT**	5/5

Ingrid's Back

£19.95 • Level 9 (0344 487597) • All PCWs

Sequel to Gnome Ranger in which Ingrid returns to Little Moaning to find it under threat from Jasper Quickbuck who wants to replace it with e yuppie estate. Adventure in 3 parts.

ATMOSPHERE	4/5	**INTERACTION**	4/5
CHALLENGE	5/5	**VALUE VERDICT**	4/5

Jinxster

£24.95 • Rainbird (01 240 8838) • All PCWs

This one's all about saving the civilisation of a place call Aquilania from the wicked Green Witches. All you have to do is find and reassemble a magic bracelet and redirect its errant powers. A very atmospheric game.

ATMOSPHERE	5/5	**INTERACTION**	4/5
CHALLENGE	5/5	**VALUE VERDICT**	4/5

Knightorc

£19.95 • Level 9 (01 631 5373) • All PCWs

You are an orc in this typical Level 9 adventure by the name of Gridleguts. An addictive game with lots of action, plenty to explore and mind-bending puzzles.

ATMOSPHERE	5/5	**INTERACTION**	5/5
CHALLENGE	5/5	**VALUE VERDICT**	5 /5

Lancelot

£14.95 • Mandarin/Level 9 (0625 878888) All PCWs

A game in three parts which recounts the adventures of Lancelot.. Manufacturers have vividly created an Arthurien world in which points are awarded for displays of chivalry, valour or benevolence. The game permits a full range of powerful commands.

ATMOSPHERE	5/5	**INTERACTION**	5/5
CHALLENGE	4/5	**VALUE VERDICT**	5/5

Lurking Horror

£24.95 • Activision (01-431 1101/2992) • All PCWs

Something nasty is lurking down in the bowels of the George Edwards Institute of Technology – find it before it finds you! Another great game from Infocom.

ATMOSPHERE	4/5	**INTERACTION**	4/5

CHALLENGE 3/5 **VALUE VERDICT** 4/5

Matchday II

£14.95 • Ocean (061 832 6633)• All PCWs

Excellent football simulation game with superb graphics. Tackling and jumping ,volleying and heading etc. Play against the computer or against a friend.

GRAPHICS 5/5 **ADDICTIVENESS** 5/5

LASTING APPEAL 5/5 **VALUEVERDICT** 5/5

Mindfighter

£24.99 • Abstract Concepts/Activision (01 431 1101) • 8000s only

An adventure game set in post-holocaust Southampton. Hero is a psychic 11 year old boy who can change himself into all different kinds of animals, and who has accidentally projected himself into the future. It's up to him to change the course of events and prevent nuclear war.

ATMOSPHERE 5/5 **INTERACTION** 3/5

CHALLENGE 5/5 **VALUE VERDICT** 4/5

The Pawn

£24.95 • Rainbird (01-240 8838) • All PCWs

An excellent adventure with dozens of superb screen illustrations, zany characters and a host of baffling puzzles. Will keep you entranced for hours.

ATMOSPHERE 5/5 **INTERACTION** 5/5

CHALLENGE 5/5 **VALUE VERDICT** 5/5

Return to Doom

£12.95 • Topologika (0733 244682) • All PCWs

Sequel to Countdown to Doom; you're back on the planet Doomsweepers again to track down the ambassador Regina who has been kidnapped by some very unpleasant robots. Another text-only adventure game.

ATMOSPHERE 3/5 **INTERACTION** 2/5

CHALLENGE 4/5 **VALUE VERDICT** 4/5

Silicon Dreams

£19.95 • Rainbird (01-240 8838) • All PCWs

A trilogy of intriguing adventure games. You are secret agent Kim Kimberley saving Snowball 9 from almost certain doom! With a humorous novella.

ATMOSPHERE 4/5 **INTERACTION** 4/5

CHALLENGE 4/5 **VALUE VERDICT** 4/5

Scrabble

£19.95 • Virgin Leisure (01-727 8070) • All PCWs

Excellent implementation of the famous game. 1 to 4 people can play the computer, which knows a fair few obscure words. Good graphical display. Eight levels of difficulty, and the top level scores 350 or so regularly, so you have to be on top form!

GRAPHICS 4/5 **ADDICTIVENESS** 3/5

LASTING APPEAL 4/5 **VALUE VERDICT** 4/5

Sorceror

£24.95 • Activision (01-431 1101/2992) • All PCWs

Enter the world of necromancy and sorcery courtesy of enother intriguing and mind bending adventure game from Infocom.You have to find out the correct spells which will locate your missing master, Belboz.

ATMOSPHERE 5/5 **INTERACTION** 4/5

CHALLENGE 4/5 **VALUE VERDICT** 4/5

Starglider

£24.95 • Rainbird (01-240 8838) • 8000s only

A sophisticated shoot-'em-up with 3D vector graphics and a dose of strategy too. Your task is to save Novenia, helped by a complex playing guide.

GRAPHICS 5/5 **ADDICTIVENESS** 4/5

LASTING APPEAL 4/5 **VALUE VERDICT** 5/5

Stationfall

£24.95 • Activision (01-431 1101/2992) • All PCWs

Sequel to Planetfall. You explore a space station with your chums Floyd and the philosophical robot Plato. Usual Infocom standards –a great sci-fi adventure, a mix of 2001 and Star Trek!

ATMOSPHERE 5/5 **INTERACTION** 4/5

CHALLENGE 5/5 **VALUE VERDICT** 4/5

Steve Davis Snooker

£14.95 • CDS (0302 21134) • All PCWs

Surprisingly realistic simulation of both pool and snooker games - not as easy as it looks either! Foul shots, breaks and allows for spin, side, strength of shot. Good value, despite all the balls being greens!

GRAPHICS 2/5 **ADDICTIVENESS** 3/5

LASTING APPEAL 3/5 **VALUE VERDICT** 3/5

Strike Force Harrier

£19.95 • Mirrorsoft (01-377 4645) • 8000s only

A combat simulation of a Hawker Harrier, designed in conjunction with British Aerospace. Very detailed and realistic but you'll need to put in a few hours with the manual to get off the ground.

GRAPHICS 4/5 **ADDICTIVENESS** 3/5

LASTING APPEAL 3/5 **VALUE VERDICT** 3/5

Time and Magik

£14.95 • Mandarin Software (0625 879920) • All PCWs

An excellent trilogy of time travel adventure which can be played in any order. Your task is to protect the history of the world from the destructive timelords –another very atmosphenc game.

ATMOSPHERE 5/5 **INTERACTION** 4/5

CHALLENGE 5/5 **VALUE VERDICT** 5/5

Tetris

£19.99• Mirrorsoft (01-377 4837) • 8000s only

You fit together bricks of various shapes that drop out of the sky at the bottom of the screen. The better the fit, the higher your score. One of those ridiculously simple ideas which is very addictive!

GRAPHICS 3/5 **ADDICTIVENESS** 5/5

LASTING APPEAL 4/5 **VALUE VERDICT** 5/5

Tomahawk

£19.95 • Digital Int. (0276 684959) • All PCWs

A sophisticated Apache helicopter flight simulator. Impressive cockpit view graphics as you engage in combat missions – can be used with a joystick too.

GRAPHICS 4/5 **ADDICTIVENESS** 3/5

LASTING APPEAL 4/5 **VALUE VERDICT** 4/5

World of soccer

£15.95 • Coda (01 789 9551) • All PCWs

A soccer management simulation game; you select squads of players for your international team and guit e them through the European and World Cups. Gives a good insight into the kind of strategic thinking required.

ATMOSPHERE 4/5 **INTERACTION** 3/5

CHALLENGE 4/5 **VALUE VERDICT** 4/5

N E X T M O N T H

The guide continues with the categories of SPREADSHEETS, GRAPHICS and GAMES. The month after that will cover WORD PROCESSORS, ACCOUNTS/PAYROLL, UTILITY and DTP software, and the month after that it's back to this month's topics.

Our intention is to keep publishing the three parts of the guide in rotation, updating it each month to include all new products. If you would like to see other sections of the guide, back issues of 8000 Plus are available at £1.75 each.

Meanwhile, if you are aware of any significant omissions or errors in the File as published, please let us know. We intend to maintain it as THE authoritative guide to PCW software.

P.C.W LOCK-SMITH

The LOCKSMITH is a combined disc editor and format emulator. Allowing you to edit, examine and transfer most non-standard formatted disc sectors automatically, but for those more complicated formats, LOCKSMITH will give you options to view information regarding the format. With this information LOCKSMITH will then allow you to edit disc parameters, so as to emulate even more non-standard formats.

The LOCKSMITH has been designed for ultimate user friendliness, with an on screen cursor controlled menu, giving access to over twenty options, enabling easy disc editing to be carried out, whether you are an expert or not.

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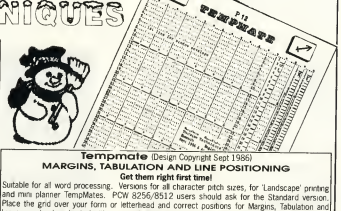

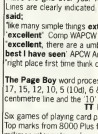

Tempmate (Design Copyright Sept 1986)
MARGINS, TABULATION AND LINE POSITIONING
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Suitable for all word processing. Versions for all character pitch sizes, for 'Landscape' printing and mini planner Tempdiscs. PCW 8256/8512 users should ask for the Standard version. Place the grid over your form or letterhead and correct positions for Margins, Tabulation and Lines are clearly indicated. It's so simple it doesn't need further explanation! **Reviewers have said;**

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"**excellent**" Comp WAPCW Sept 1987. "**wonderfully simple idea**" Your APCW Jan 1987.
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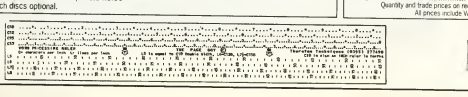

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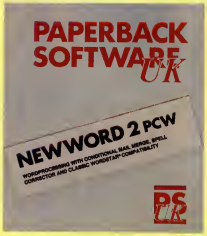

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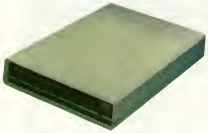

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See the full review in issue 31/35

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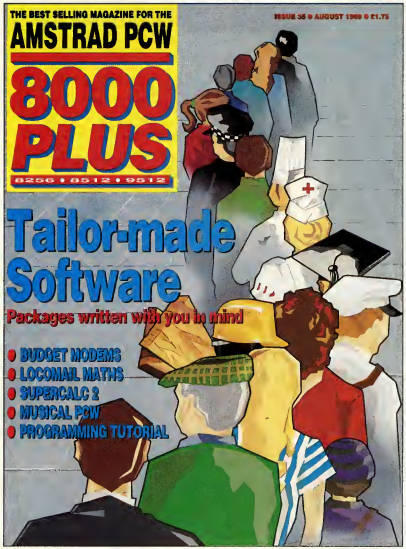

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POST SCRIPT

Yes, once again it's time for us to listen to you – for a change

If you've got something on your mind then get it out of your head, onto a disc and finally printed on paper. Share your words with the world and you'll have the satisfaction of knowing everyone else knows too. For your chance at literary immortality send your belles-lettres to: Postscript, 4 Queen St, Bath, BA1 1EJ

Czech this

I am writing to you on the advice of my colleague Mr Stefan Rybar from Prague TV, who thought you might be interested in my problem and hopefully help me to solve it.

I am a happy owner of Amstrad computer PCW9512. Since the language I work most with is Czech (I am a writer and translator from English to Czech), I am facing a problem. The daisy wheel does not contain a number of characters I need. Thus having finished and printed my work I am forced to add accents above our Czech characters in pen, which makes the great advantages of this powerful machine less exciting.

The East German daisy wheel, ROBOTRON 6130 polytron, has all of these characters and fits just perfectly. This daisy wheel opens the market for PCW9512 in Czechoslovakia for all the customers here who prefer this kind of printer. But there still remains the problem of proper software to create a character set for this particular printwheel. I was wondering whether you could help me to obtain it.

Jiri Josek
Prague
Czechoslovakia

8000 PLUS I hope you don't mind me passing your letter on to Locomotive, who can definitely sort out the problem. You need the Print Wheels disc (£14.95) which includes several daisy wheel printer drivers along with a program that enables you to write your own drivers. On another subject, when you see Stefan tell him we're still waiting for copy.

Up, up and away

I am thinking of upgrading my PCW8256 with an additional disc drive, and would value your opinion concerning this.

The choices available appear to be either on 31/2" or 5 1/4" drive. With regard to price of purchase, performance and price of further software and discs, would you please recommend the best choice. Could you also recommend a reputable dealer to contact.

I am also thinking of upgrading the RAM with one of the kits advertised in the magazine, but I should like to know, whether they are as easy to fit as is suggested, before purchasing.

A Phassin
Reading

8000 PLUS Software is the same whatever second disc drive you run (and usually comes on 180k discs regardless) so no need to worry about that aspect. 5.25 inch discs are the cheapest by far and the Pace drive is very good value. It comes with software which will allow you to read MS-DOS data files.

We will be covering simple RAM upgrades again soon, and yes, it is relatively easy though anyone might be forgiven an attack of nerves when dismantling their friend.

Words fail me

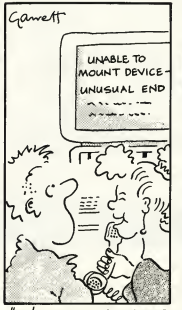
The Amstrad 9512 I have is a replacement for a previous 9512 that failed (disc drive) just within the warranty period (built-in obsolescence?) The second monitor failed within a month of having the drive replaced by an engineer at the retailer's expense.

But every now and again, irregularly, the top message on the screen flashes from 'Printer idle' to 'Printer failed' obliging me to switch-off and on again, later, if I want a printout. This happens even when I'm nowhere near the beast.

Do I need an engineer (call-out £50 charge) or is the problem a simple one I can solve myself?

E Lynch
London

8000 PLUS The problem is probably with the chip that drives the printer, some of which appear inordinately sensitive to heat. Short of packing the PCW in ice – or working in the traditional freezing garret – there is no complete solution other than yet another machine.



Spiked story

Thank you very much for your time on the 'phone earlier this afternoon; I can quite understand your initial concern and scepticism!

While you have been reassured by official sources that there is no real reason to assume that individuals' health may be at risk from working with VDUs, if you talk to any clinical ecologist you would find that this is not the case. Such health professionals, many of whom are experienced doctors dissatisfied with shortcomings of the 'system', are primarily concerned with the connection between health and environment (which includes food, air, water, chemical and electromagnetic pollution).

I am not saying that VDUs constitute a major hazard to the health of operators, just that they contribute to the total of e/m radiation to which we are all subjected, and for this reason alone precautions make sense to many people.

This cactus, (*the one discussed on the phone – Ed*) 'Cereus Peruvianus', has been claimed from Swiss research to be capable of absorbing e/m radiation, and various tests in the UK, though limited so far, have confirmed this. I am therefore making this cactus available to anyone who would like it.

Peter Campbell
Gillingham
Dorset

8000 PLUS A prickly subject this (groaning stage left) and despite the discussion we're still not quite sure how it's all supposed to work. Is the cactus in question transparent? Do you peek around it with mirrors? If you want one you'll find the address in News Plus.

Paper wait

No demand indeed! Shame on you, Sir – and kind regards to your correspondent (and our future delighted customer) Anthony Allen of London!

We have advertised our A5 continuous paper on the pages of your most excellent mag for a year now, and there is a steady demand for it – to the extent that we manufacture 100,000 sheets at a time nowadays.

Our A5 stock is made from high quality, 80gsm letter quality wood free paper, microperforated for clean tear-off, etc, etc, etc.

What an excellent magazine 8000 Plus is; never lost for a merry quip, so full of wit and pith (sho shorry, my faish teeth fell out) – we look forward eagerly to our copy every month.

Simon Caspell
Caspell Computer
Poole

8000 PLUS With knees worn to the bone already it's getting hard to grovel adequately these days. Everybody and his brother put us straight of course, and many thanks to you all. What we meant to say, of course, is that demand for A5 continuous paper is strong and you can get it all over the place, especially from Caspell Computers (was that alright? Oh good).

Fair dos

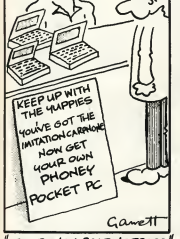
As you may or may not have noticed this is the second time I have written to you today. This letter is of the common 'help me if you can' type so here goes.

I have the game Fairlight 1 for my PCW8512 and I have been

searching and searching for the past 18 months for an answer. I have finally given up trying to find one so I suddenly thought of writing to someone reliable like you. I say someone reliable because I wrote to The Edge (the publishers of Fairlight) in January of this year and have not heard a word from them for about 7 months.

Steve Chapman
Bodmin

8000 PLUS If anyone knows anything about Fairlight perhaps they'd like to help Steve find an answer? Later on we might go on to find the question.



"YES- DOING A ROARING TRADE"

Quite enough of that

With reference to your error messages study, the following snippet might be considered suitable.

This particular error occurred some years ago, in the days when IBM mainframe sites had removable discs which were carried around the machine room, placed on an appropriate disc drive and then screwed into place on a spindle. The program error message was produced by a notoriously awkward IBM utility called IEHMOVE, and referred to something I had done wrong in connection with a disc I wanted to read. It must have slipped through the normal checking procedure for unambiguous clarity (and cleanliness), and read simply:
..... UNABLE TO MOUNT DEVICE.
UNUSUAL END.

Nigel Gilligan
Matlock
Derbyshire

8000 PLUS Everyone in the office laughed but no-one would explain the joke.

Along with error messages there is an interesting field of study waiting to be explored by the anthropologists of the computer age. A lot of software has messages embedded in it. Early CP/M WordStar v3 overlay files have several. What's interesting is that unlike those comments you sometimes find behind wallpaper the programmers seemed to assume that a lot of people would be reading them.

Comma gain?

I was very interested to hear in your August issue you may be doing an article on pocket computers being used as a PCW extension.

In my work as a Tech Sales Representative I am using a Psion XP. I mostly use it for storing my clients' names and addresses etc and to sort out data for mail shot purposes.

Not being a computer expert it has taken me some considerable time to set up a communication link between my PCW 9512 and my Psion, using the Psion comms link and SCA serial interface.

Using Ascii files for transferring my data from LocoScript to the Psion and vice versa, I still have one small problem about which I would like you to comment.

In the transfer of data from LocoScript to Psion the end of page code is transferred to a comma, which means that you have to re-edit the data when it is transferred back to the PCW.

Apart from that the Psion works fine and I no longer have to carry box files in the car (which has always remained a security risk), and all amended entries can be updated once a week on to the PCW.

S M Burgess
Solihull
West Midlands

8000 PLUS Presumably you are making a page image file from LocoScript and the Psion is turning the form feed character into a comma. The only thing I can suggest is turning end of page markers into something like an asterisk with Find and Exchange before the transfer, then changing them back the same way afterward.

Manual Que?

I am considering buying a PCW. I intended taking one back to Tenerife from here – simply because the local ones will probably only have instructions in Spanish. I now find that the total weight of an unopened carton more than exceeds my baggage allowance! Can you tell me if it is possible to obtain a book of instructions here – without buying the machine.

Also I believe the power supply is 220v there – and we get many power cuts without warning.

H J Pearce
Tenerife
Canary Islands

8000 PLUS Locomotive (0306 740606) will sell you any of the Loco product manuals and the Basic manual. Try Amstrad Customer Services (0277 230222) for the CP/M manual.

220 volts is perfectly alright but you may find a local machine has other problems, like Spanish menus, keyboard, error messages and so on. You should check first.

Strange but true

For some time I had noticed my PCW getting more and more sluggish, until, finally, the point was reached at which I could enjoy a three-course meal in the time it took to scroll through a 25k file.

Then I noticed in your August issue an advertisement for the 'Mini Super Cleaner", which is in effect a tiny battery-driven vacuum cleaner, designed to remove dust and various other detritus from inaccessible places in the computer.

With this I gave the drive a good sucking-out, which resulted in an immediate and dramatic improvement. Scrolling through 25k was now completed within the time it took me to make and drink a cup of coffee.

When I emptied the bag of the cleaner I got, not dust as I had expected, but a small, tangled heap of address marks. The address marks which, from time to time over the years of use, LocoScript 2 had informed me were missing. These had obviously accumulated in the drive and had begun to act as a brake, eventually slowing it down almost to a halt.

I carefully untangled them and stacked them neatly, and now whenever I get the "address mark missing" message, I simply insert one of my spares to replace the missing one.

So far I have been unable to find a solution to the problem mentioned on page 292 of the manual, "the printer prints rubbish", but I am working on it.

Reg V Ward
Sherborne
Dorset

8000 PLUS Oh yeah? We know all about your type here, so tell us this then – how do you stick them back on?

Chequed in

On August 1st (this year) I sent off for the update on Money Manager Plus, to Connect Software, enclosing the original disc and cheque to cover cost of update.

On August 9th I received my new program. Not only the speed of the company astounds, but, as an overseas customer, there was included a cheque for the reimbursed VAT costs!

The update is all that it claims to be, plus a bit more, and it has an in-built auto-boot facility (with prompts and pull down menus that even this idiot can follow) and a conversion for existing files. A pleasure to use.

I wonder if you can give any information on mouse use with relevant interface and programs and whether they are worth the memory space they take up especially on a basic PCW8256. Would a mouse work in the usual manner with this (German keyboard) Schneider PCW8256, or do I need a German mouse and RS232?

I do enjoy the magazine in its present format, with a good mixture of the serious and funny, programming and simple hints, all in an easy to understand format, with lots of help for the less advanced (me!).

Anne A Bischoff
Bad Driburg
West Germany

8000 PLUS I assume you're thinking of the AMX Desktop, which should work. Personally, we feel that mice are best restricted to use with DTP packages on the PCW where they do a fine job. It's a pity that LocoScript doesn't support mice, but then, you can't have everything. Glad you like the magazine.

Train driver

You kindly printed a letter from me concerning the many problems I was experiencing with my Panasonic KX-P1124 in your July issue. I am happy to report that Locomotive Software has gone to a great deal of trouble and to date has solved most of them. They have in fact written a new Printer Driver for this printer, the 24LQ2500.PRI (together with a new version of the 24PIN.DRV – the LQ24.DRV), which has now enabled me to print, albeit in high quality only for the moment, the full Locomotive character set. Crazy results are obtained trying to print in draft quality. The first requirement is the additional 32K buffer – it won't work without this as the characters

have to be downloaded. The printing is some 25 % slower than in the LQ2500 mode but a small price to pay for all those characters, and still far, far quicker than the built-in dot matrix! The character sets from the drivers disc have to be renamed to match the printer, eg 24LQ2500.#SS etc.

S Dunlop
Southsea

***8000 PLUS** As a company Locomotive decided early on to look after their customers and are now perhaps the most supportive software company of all time. We've never known them to let a customer down, a commercial stance that does them great credit (this answer is on a tear off slip for easy transmission to Private Eye's OBN corner.)*

Hard luck

All right you boys, you can't fool me! The picture on page 40 is the correct way round, but the same picture on page 3 is reversed. I claim the first prize of the 900 megabyte hard disc to fit onto my PCW9512.

To less important things... I purchased a STAR LC-10 COLOUR printer after you gave the black one such fantastic rave notices, and does next to nothing the manual states it should do. Dozens of type-faces from the front panel, insert colour anywhere, bold, underline — rubbish. I am running LocoScript 2, do I need another print-driver? Nobody seems to know. Perhaps you boys and girls can enlighten me, please. Same subject; the single-sheet paper guide arms fall about all over the place. The secret is to dip each one in boiling water for a few seconds only, and very carefully move the plastic blobs on the back upwards very slightly. Dip the same into cold water and re–fix to the paper board.

Tim Morgan
Sevenoaks

***8000 PLUS** That one really was an error by the reprographics house, not us for change. As to the Star LC-10 it is pretty much Epson compatible and should work perfectly well, apart from the colour for which there is unlikely to be any support.*

Of course you could try Locomotive and ask for the printer drivers disc (v2.28 – 320 printers supported) but I doubt if it will do any good. A much better idea is to dip a copy of your LocoScript 2 into boiling water and while the software is still hot and floppy carefully mould it until it drives the printer properly.

Local customs

As I travel by car to places abroad such as West Berlin, Spain and Portugal, it would be useful to take my PCW along, but so far I have not attempted to do so. Could you advise of any problems other than the obvious one of supply voltage?

T Richardson
Norwich

***8000 PLUS** The only real problem you might have is being charged VAT on it (in Europe) each time you go through customs and other taxes elsewhere. You will need a Carnet (pronounced 'carnay') to cover it which will be stamped as you go through each set of customs to prove you've always had it. Contact your local Customs and Excise department who will put you in touch with a Paperkeeper (don't you just love all this traditional stuff?). Carnets are not transferable.*

Picture post

I now have under my finger tips a brand new Amstrad PCW 9512, and my first computer/word processor. Your magazine is another first. It's the only computer mag I have ever bought, and through its advertising I have purchased what appears to be a quite useful Money Management system.

But I need some help. I wish to catalogue my photographic prints and negatives, this interest being a serious hobby that is self financing. Can you suggest how I can go about it?

A C Bunce
Camborne
Cornwall

***8000 PLUS** There is at least one specialist database package for photographers, Fotocall, which we will be reviewing in the November issue. Alternatively, LocoFile is well suited to such a purpose. If your collection is truly enormous (and it can be with photographs) you may need to break the database up in some way or go for a hard disc-based system.*

Too much

This morning I went down to the town and bought three magazines to do with my PCW. In a certain section I read that Starglider 2 (game) was available for it. I know that Starglider 1 (or Starglider) has been out for some time on the PCW but I have not seen any mention of the second one. As you might have guessed I am interested in buying it so I would be grateful to hear what you have to say about it.

Steve Chapman
Bodmin

***8000 PLUS** Much as we might applaud your good taste, buying three copies of 8000 Plus seems a trifle extreme. Even more strange, we can't remember writing anything about Starglider 2, or even hearing about it. Perhaps there's been some mistake?*

Request noted

As a registered addict of 8000 Plus since Day one, am I entitled to one request? Any recent convert to your excellent magazine might well believe there are only two PCW Word Processors, LocoScript and Protext. Was I the only user in the early days who decided (encouraged by 8000 Plus) that NewWord was the choice for serious work? I still like it and find the "obscure commands" no problem using the crib sheet from the manual.

My request is for an article on the inner secrets of NewWord – can I configure a key to print 0.5 as a fraction, get HQ Elite print at 10 cpi, avoid page 2 printing 3 lines higher than page 1, etc?

David T Reeves
Notts

***8000 PLUS** That seems a reasonable enough request. The reason 8000 Plus used to recommend NewWord is because we used to use it in-house. If we can find an ex-expert on it to give us a few pointers we may be able to oblige.*

The last word

You published a letter from my son in a previous issue of your magazine (Brazen Effrontery – issue 31). His letter stated that he had a "pirated" copy of Locoscript 2, and that he was unable to use it as he had no instruction manual. He also said that "everyone he knew" had copied disks too.

My son was 15 years old at the time. He now realises, due to a very large hole in his pocket, that copying disks is an offence, and he will not do such a thing again. In fact, the disk he copied was lent to him in good faith by a schoolmaster for my son to undertake at home some work he was helping the master with. The teacher, too, regrets the results of his action.

In fact, my son knows of nobody who has a pirated copy, and his choice of words is unfortunate, and must be put down to youthful exuberance (he had had his PCW for only three or four days when he wrote the letter). He therefore retracts the statement in that letter concerning others he knew, which was not true.

He has now purchased a copy of Locoscript 2 to make amends for his misdemeanour. My son would like all readers to understand that such piracy is a serious matter, and that all who consider it should also consider the consequences.

Richard Openshaw
Chichester
West Sussex

***8000 PLUS** Thanks for the letter. The problem is one of perception in that laws that are both easy and convenient to flout are often seen as not being applicable to those ignoring them. The schoolmaster was himself breaking the terms of his licensing agreement (he bought it for his own use on one machine) and no doubt, being older, and presumably wiser, he knew it but decided it didn't apply to him.*

As customers we're all quick to demand our rights these days but if we don't respect the rights of suppliers as well the whole system breaks down.

Oh no, not again!

Bad news, chaps – you got it wrong! Your 'Music, Micro, Please' article says that the EMR Pro-Performer software is for "All PCWs". "Fraid not! Neither the software (nor the MIDI interface) is suitable for PCW9512 – if it were I'd have got it.

When I decided to get a computer I wanted one that would give me good word processing and music, but I was short of readies. So, on the strength of a similarly inaccurate article, in a magazine not unlike your own (perhaps it was yours?), I bought a PCW9512... and only got to the truth when I tried to buy the MIDI goodies from EMR. (If I'd known otherwise, I'd probably saved my pennies for an expanded ST.)

So, before anyone else gets caught out, I suggest you print a grovelling retraction mighty quick. The moral? Never believe anything you read in computer mags without checking the facts first!

Graham Nelson
Formby
Merseyside

***8000 PLUS** Alright, that's it. From now on we'll work on our knees to keep us humble. As for the chap who wrote it, I think we deserve a rebate on his fee.*

Unprintable

I own a PCW 8256 and have now been lent an Amstrad PC 1512.DD in order to run bigger programs. Can I use the printer from the 8256 with this PC?

Mrs P Sadler
Prestwood
Bucks

***8000 PLUS** No. The built in printer has only the printer mechanism and not the electronics to drive it. The PCW does that job directly. The same thing applies with the daisy wheel printer on the 9512.*

Q What comes out of the same offices as 8000 Plus, only four times as often?

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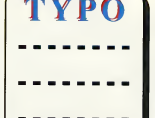
Astrocalc 85
BBD Dust Covers 53
Blackmore Electronics Ltd. 82
Brainstorm Software Ltd 81
Caspell Computer Services ... 24
Classic Software 70
Coda 32
Composit Software 66
Compumart ..... IBC
Computing Plus 54
Comstax Ltd 45
Connect Systems 81
Copycomm 45
Cornix Software Ltd 70
Creative Technology 9
DGC 53
Data Access 88
Database 41
Dataline Computing Svs 14
Disc Design 14
Dunning Computer Svs 85
Embleford Hi Tec 54
Exemplar Design 48
Groundwork 82
HD Design 70
HTB Computers Ltd 82
Headline Communications .. 63
Home Based Business 85
Iansyst 32
Intraset Ltd 70
Isensteln Comp. Sys 22-23
Jacaby Centre 79
JEM ..... IFC
John Fisher 85
K & M Computers 64
Kador 79
Kavin Comp. Supplies 28
Kevin Heywood 82
Keystrokes Ltd 85
Kosmos Software Ltd 63
Laser Images 48
Locomotive S/W Ltd ... 4, 16,19
MJC Supplies 68
Manx Tapes 47
Margin Maker 61
Meridian Software 64
Michian Software 88
Micro Media 48
MicroTyne 85
Miles Better Software 81
Moonstone Computing 63
Newstar Software Ltd .... OBC
PCW Software Library 82
RSC 30-31
Rombo Ltd 82
SBS 9
S. C. Coleman 61
SCA Systems Ltd 54
SK Marketing Ltd 38
Selec Software 53
Silica Shop 57, 73
Silicon City 14
Software Imperative 37
Suredata 79
Thameslink 64
Three Inch Software 79
Thurston Techniques 88
Timatic Systems 48
Topologika 82
Tudor Systems 82
Vital Software 66
W.A.V.E. 54
West of Britain Business 6
Wight Scientific 64
Worldwide Software 63

Advertisers Index

TYPING COMPETITION

If yuor tuping isn't waht it should be – enter yor name here.

Those terrible typos have finally become too much for us here at 8000 Plus. In an attempt to wipe them out completely, we've persuaded Iansyst to put up not one, not two, but three of their superb Typing Tutor double packs. Each pack contains not just the Iankey Typing Crash Course for complete keyboard novices but also the Iankey Two Fingers to Touch Typing course for those who never learned to count up to ten. Find those missing fingers at long last!



No longer will you have to break off while extricating Cynthia from the clutches of the dastardly Ken to find out where they've hidden the letter K, your fingers will know where to go automatically; you'll learn to play that keyboard the way Joan Collins plays Alexis, effortlessly. Learn to type professionally and you'll only ever have to worry about the words and never the letters.

How can you win one of these major productivity tools? It couldn't be simpler. Just put right the ultimate in typos that we've found here changing TYPO to TABS. You have to do it in four steps changing one letter each time and making a good English word with each change. Entries on the back of a sealed envelope or postcard (really this time) to Typing Competition, 4 Queen Street, Bath, BA1 1EJ. Final entry date and draw is the 24th of October.

This month – next month

We're having problems packing it all in these days, so we've gone for a hundred page issue this month; another eight pages for free. We're too good to you really. So good in fact that we've finally made room for the famous 8000 Plus Index. The guide by your side to all those wonderful articles, reviews, features and listings that have appeared over the past year. Keep it safe.

Sorry about having to hold the SuperCalc tutorial over for a month, but we've got it in now, and yes, we are going to finish with the infamous SuperCalc Exec files.

As you'll have seen we've run the second part of our beginners guide to getting the best from LocoScript and given you the low down on Footers. We have another one lined up for next month but we've been wondering if there's any particular, rarely-used aspect of LocoScript you'd like to see a guide to. Let us know.

Three hard discs, it's hard to believe really. An embarrassment of riches almost. What's especially nice to see is the move toward the SCSI interface. But watch out, almost anyone can use your hard disc on any machine. Like Tamron camera lenses you can take them with you wherever you may go.

And the RAM discs arrive. Have you got one? Write in and tell us what difference it's making to the way you work. With any new product there are bound to be a few tips worth passing on, and we want to hear about them.

Women in computing

The PCW has a larger percentage of home users than any other computer. How are women employed in the high tech computer world making out?

Page setup

Sharon Bradley shows you how to design a new page in LocoScript 1 and 2

SuperCalc

At last, the mysteries of SuperCalc 'black boxes' revealed

Sharp IQ

Second in our look at true pocket computing power for your PCW

Music maker

Composers' Pen is software to write music – we put it through the organ grinder

Languages

A quick look at C, held over for this month for all sorts of reasons

Biblical times

You can make Protext write in Hebrew, or any other language. Ian Goodhardt shows you how

Daisy answers

Learn how to get a little more from the 9512 daisywheel printer

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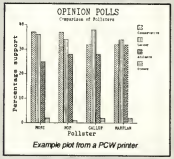

Example plot from a PCW printer

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